FUJIFILM ENGINEERING CHANGE NOTICE (FIELD CHANGE NOTICE)

SUBJECT: Rev.1: Releasing the information of DR-ID300CL Application Software V7.0

Design Change Reason	Action	Time frame
☒ Product Improvement (*1) ☐ Process Improvement ☐ Serviceability ☐ Part Replacement ☒ Corrective Action(*2) ☐ Preventive Action ☐ Regulatory Compliance ☐ Other ( )	☐ Mandatory ☒ Recommended (*2) ☐ Upon failure ☒ Not required (Information only) (*1) ☐ Other ( )	☐ Immediately (by) ☒ Next maintenance (*2) ☐ At your convenience ☒ N/A (*1)

"1 corresponds to the New Function/Enhancement below whereas *2 to the Error Corrections.

DATE: Oct. 4 , 2012 Dept.: *Quality Assurance Div. Medical Systems R&D Center*
ORIGINATOR: T. Saito EDITED BY: A. Takahashi APPROVED BY: T. Uekusa
AFFECTED PRODUCTS: DR-ID300CL
TOTAL PAGE (S): 82 ATTACHMENT: ☒YES ☐NO
RELATED INFORMATION: None

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DESCRIPTION OF CHANGE:

CL Application V7.0 for DR-ID300CL, including new functions and error corrections, is ready to be released.

New Functions/Enhancement

1. 2430C connection
2. Integrated MC
3. Supporting high sensitivity mode of automatic X-ray detector
4. Supporting CR mammography
5. Enabling GA/GS adjustment using mouse

Error Corrections

1. Studies are not deleted from the list even after the studies were executed in MWM. Also, "RE00000" error occurs when the studies are started.
2. Images cannot be transferred from FCR5000 to Console Advance.

Caution) Be sure to install HF0001(Base:V7.0) (ECN 2012-E-0293) before using V7.0.

- APPLICABLE TO (Serial Nos. etc.) : DR-ID300CL Software V5.0/V6.0/V6.1/V6.2(included HF)
- ESTIMATED WORK TIME: 0 HOURS
- SPECIAL TOOLS / INSTRUMENTS: ☐YES ☒NO
- SUPPLY OF THE ARTICLES: ☒YES ☐NO
  - IF YES, WHEN: At the same time with this ECN
  - NAME / CODE: DR-ID 300CL Application Software V7.0 / 114Y2150001B04
  - QUANTITY: 1set of 1DVD

(⚠1 Application software is not attached to Rev.1)

- RETURN OF THE REPLACED PARTS TO FUJI: ☐YES ☒NO

DOCUMENTS AFFECTED: ☐YES ☒NO

AFFECTED DOCUMENTS	CURRENT		NEW	
	REV	ISSUED DATE	REV	ISSUED DATE

DETAILS:

See the attachment for details.

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- NOTE
  1) Important information about SUPPLY OF THE ARTICLES:
     Charge:
     - ☒ FREE OF CHARGE UNTIL (mmddyyyy): __
     - ☐ WITH YOUR CHARGE
     - ☐ NOT APPLICABLE

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Rev.1: Releasing the information of the DR-ID 300CL Application Software V7.0

1 Released items

Product names	Parts number	Media	Number of media
DR-ID 300CL Application Software V7.0	114Y2150001B04	DVD	1
DR-ID 300CL Standard Kit V5.0	114Y2150003B04	CD	1
DR-ID 300CL Standard Kit(Lite) V5.0	114Y2150004B04	CD	1
DR-ID 300CL Standard Kit(Mobile) V3.0	114Y2150006B02	CD	1
DR-ID 300CL V6.2 Reference Guide 7th Edition	114Y2150052B05	CD	1
DR-ID 300CL V6 2 Reference Guide 7th Edition (for Software single sales)	114Y2150053B05	CD	1

Options

The following option, which has already been released for other products, can be applied to DR-ID 300CL from V7.0 onward.

*Only the CD label has been replaced from the existing parts.

Product names	Parts number	Media	Number of media
CR-IR348CL/DR-ID 300CL PEM Key Software V1.0	114Y5342306A00	CD	1

Service Tool

Tool names	Parts number	Media	Number of media
DR-ID 300CL Menu Import/ Export Tool V5.1	114Y2150758B02	CD	1

Hardware Options

Product names	Parts number	Note
Extended LAN board	898Y101450	Necessary for installing the integrated MC *Driver CD is included
Extended LAN board（for 780DT）	113Y100502	Necessary for installing the integrated MC
Additional memory for 760/960（2GBx2）	113Y100849	Necessary for installing the integrated MC
Additional memory for 780/790/990（2GBx2）	113Y100843	Necessary for installing the integrated MC

2 Mainly Extended/Improved Functions

No	Developed item	Remark
1	2430C connection	Refer to Appendix-A
2	Integrated MC	Refer to Appendix-A
3	Supporting high sensitivity mode of automatic X-ray detector	Refer to Appendix-A
4	Image acquisition without exposure under the condition where automatic X-ray detector activated	Refer to Appendix-A
5	Supporting CR mammography	Refer to Appendix-A
6	Improvement in operatability of tomosynthesis	Refer to Appendix-A
7	Enabling GA/GS adjustment using mouse	Refer to Appendix-A
8	Improvement in QA termination button	Refer to Appendix-A
9	Storing worklist when retrieving MWM fails	Refer to Appendix-A
10	Revised default settings for exposure condition（XconParam.mdb）	Refer to Appendix-A
11	Supporting PROFECT P connection	Refer to Appendix-A

3 Correction of Errors Found in the Field

No	Error description and details of correction	Remarks
1	Console stops operation with showing the message "Terminating…" while terminating on the systems where media storage is used. → Termination processing has been revised.	
2	Application freezes while operating QA and "ST10001" error occurs. → Log has been enhanced on V7.0.	
3	Images cannot be transferred from FCR5000 to Console Advance. → There was a problem on the management of image input status. The program has been corrected.	
4	The studies are not deleted from the list even after the studies were executed in MWM. Also, "RE00000" error occurs when the studies are started. →The logic to delete executed studies was defective. The program has been corrected.	
5	Appearance of images becomes different on PACS when they are transferred with PrivateCRStorage after the density level was adjusted in Console Advance. → S/L values adjusted images. Now GA/GS adjust images.	
6	"MD00003" error occurs when importing images from VELOCITY. → Access method to DB has been revised.	
7	Data files cannot be imported using the Simple Ordering Function in Console Advance if they do not have <Format> and <Handle> information. →The program has been revised to enable data file import without <Format> and <Handle> information for the case of the patient information linkage.	
8	"MD11013" error occurs while idling →Retry processing to access to DB has been revised.	
9	Application freezes if the stitching button is pressed while images are being input to the stitching menu. → The program has been revised to prevent freeze.	
10	Future date cannot be input to the study date to search for on MWM connection. → The program has been revised to enable future date input.	
11	Negative values cannot be specified for area margin of shuttering processing. → The range has been revised to –20 to +20.	
12	System error occurs while the application is being started up (a restart activates the application) → The error occurred when the information of no option was written in the event log. The program has been revised not to write unnecessary log.	
13	The IP cannot be registered when a menu is deleted during processing on FCR5000. → The program has been revised not to generate inconsistency.	
14	Retransmission processing was repeated in respond to the End-Read error from the cassette reader unit. (Consequently, "ST10001" error occurs) → End –Read error processing has been revised.	
15	The Selector cannot be switched to VELOCITY even after the menu was set to automatic trimming in 10"x14". → Defective setting of 10"x14" trimming for VELOCIRTY has been corrected.	
16	Shifting the center of trimming of images in the pantomography format disables film output. → The program has been revised to enable film printing.	
17	A message appears on the master Console when an unregistered IP error is detected on the reader unit. → The content of the message has been revised.	
18	Wrong PPS-SOP Instance UID is issued when a study is suspended in PPS and then is resumed subsequently. → The program has been revised to issue the same UID.	

No	Error description and details of correction	Remarks
19	Order information of Simple Ordering cannot be retrieved when restarting RIS in which there is a shared folder. → The program has been revised to enable the data acquisition after the connection is established.	
20	Study menu name (using special characters such as umlaut) is garbled when study menu mapping is executed on the studies from RIS. → The program has been corrected to prevent garbles.	
21	On FCR images, “QA00007” occurs when double-clicking to enlarge the image and “QA10014” occurs when enhancing the edges of the image. → The program has been revised to prevent the errors on HQ images.	
22	Image processing error sometimes occurs when the images retrieved from FDR A cSelerate are output in 2on1. → The error in the distance correction processing has been corrected.	

Potential errors

No	Error description	Remarks
1	Revision on the error messages [FLP-1008]/[FLP-1010]/[FLP-1011] for Free Layout Print.	
2	Displayed status of enabled emergency use does not disappear in some cases.	
3	No selector names are displayed in the thumbnails of some menus.	
4	Image number for DR five-images long-view is incorrect	
5	A speck is attached to the cursor in TomoView window on the 2nd monitor.	
6	Error [TS0008] occurs when Console with tomosynthsis setting is being started up.	
7	The operation is disabled with locked button when retransferring images fails.	
8	The status display appeared during calibration does not disappear in some cases.	
9	Error [RE00000] occurs after the selector is switched in the tomosinthesis menu, causing a subsequent system down.	
10	Underline or character box is attached to the marker in some cases when print output is performed in FLP.	
11	Additional information display becomes incorrect when switching templates after multiple FLP templates were registered.	
12	Clustering consistency check is not viewed in some cases even though “Verification of Setting with other host” is selected.	
13	Console freezes with a message to notify that SSSERIAL has been aborted in some cases during termination processing.	
14	A particular operation on long-view images taken with DR cassette disables Echo.	

4 Installation Procedure

4.1 Cautions concerning upgrading installation

Note 1) Upgrading installation to DR-ID 300CL V7.0 can be performed only from the following versions.

- DR-ID 300CL V5.0 (HF included)
- DR-ID 300CL V6.0 (HF included)
- DR-ID 300CL V6.1 (HF included)
- DR-ID 300CL V6.2 (HF included)

* When transferring data from the following versions, transfer them to V5.0 first and then upgrade to V7.0.

- DR-ID 300CL V4.0 (HF included)
- CR-IR 348CL V8.0/V8.1/V8.2/V8.3 (HF included)

Note 2) When upgrading, the mis-exposure image log/exposure result log will be deleted. When upgrading at the institutions where the users are using the exposure result data file output function or the mis-exposed image comment function, collect the logs by using the log storage function of the User Utility before upgrading. (Refer to step 3 of "4.2 Upgrading Installation".)

Note 3) When upgrading the precise enlargement function, the overlay items will not be migrated. Therefore, evacuate the user setting files before upgrading and restore them after the upgrade.

Note 4) Subsequently to the version upgrade, be sure to execute CopyReserveCode1FromMicroAs.bat on the systems where a temporary countermeasure (setting the data of the previously configured "ReserveCode1" to the first four digits of "Exposure_µAs") has been implemented against an error, which makes the communication value field for anatomical connection with Toshiba X-CON different from the one used in V4. (Refer to step 24) of "4.2 Upgrading Installation"..)

* The data of the first four digits of Exposure_µAs will be set to ReserveCode1. Refer to ECN No.2011-E-0364_DR-ID 300CL V6.1 ECN_Appendix-Z Correction of Errors Found in the Field for the details of countermeasures for this error.
  Note, however, that it is not required for institutions where CopyReserveCode1FromMicroAs.bat has already been implemented at the time of upgrading the application software to this version (V6.0 → V6.1).

Note 5) Exposure menus for mammography have been added to DR-ID 300CL from V7.0 onward. Operation of console without the exposure menus for mammography will not be supported. For this reason, it is necessary to add the exposure menus for mammography even for the systems without mammography function.

Note 6) Manual installation of the markers for mammography is required when using mammography function on V7.0 or later.
Refer to "Appendix-A Supporting CR mammography" of this ECN for details.

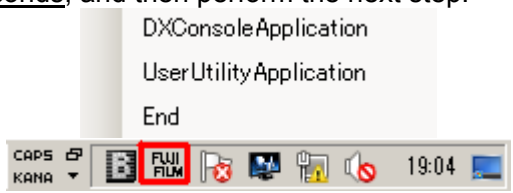
4.2 Upgrading Installation

1) Start up the PC.
2) After the Console has started up, confirm that no studies are left in the "Waiting study", "Waiting QA", or "Finish QA" tab.
   - Studies in the "Waiting study" tab → Finish or delete the studies.
   - Studies in the "Waiting QA" tab → Finish QA.
   - Studies in the "Finish QA" tab → Output the studies or delete the output cues.
3) Perform the following procedures depending on the operational conditions of institutions.
   - For institutions where the users are using the exposure result data file output function or the mis-exposed image comment function.
     (1) Start up the User Utility.
     (2) Store the mis-exposure image log or exposure result log using the exposure result log storage function.
     (3) Terminate the User Utility. (Terminate the User Utility while holding the <Shift> key to terminate only the User Utility and not to restart Console.)

- For institution where the users not using the exposure result data file output function or the mis-exposed image comment function.

(1) Terminate Console Advance. (Terminate the Console application while holding the <Shift> key to terminate only the Console application.)

4) When "FUJIFILM" task remains on the task bar, right-click the task and select "End" to terminate it. After the termination, wait around 5 seconds, and then perform the next step.



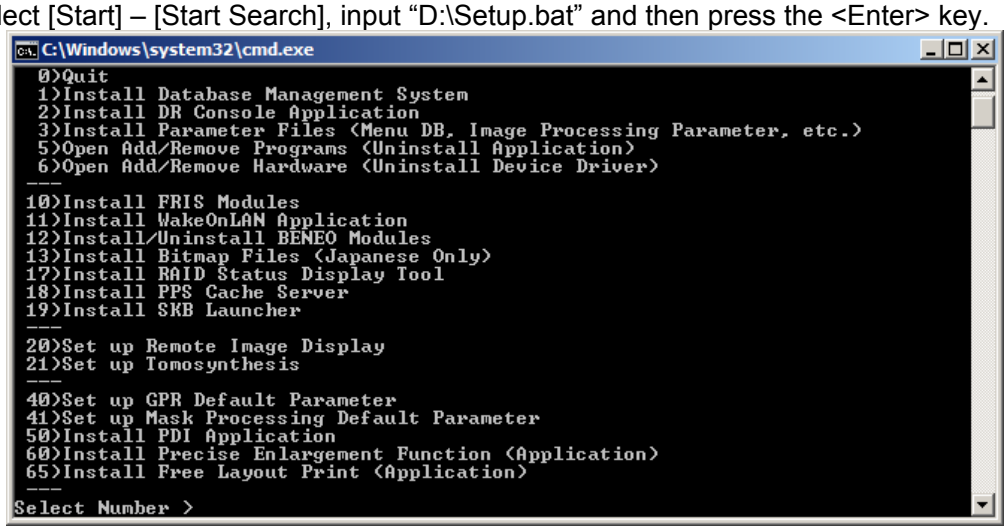
5) When the precise enlargement software has been installed, the overlay information will not be automatically migrated. Therefore, back up the following file manually onto, for example, the Desktop.
C:\Program Files\Fujifilm\Cooper\Config\EchoNoteInfoDef.xml

6) When the precise enlargement software has been installed, uninstall the precise enlargement software according to the Service Manual – "Installation-Appendix (AppxIN)" – "Appendix 7 Uninstallation of AP" – "7. Precise Enlargement Software".
(Note)
As described in the Service Manual, use the CD for the installed software version to uninstall the precise enlargement software.

7) When the free layout print software has been installed, uninstall the free layout print software according to the Service Manual – "Installation-Appendix (AppxIN)" – "Appendix 7 Uninstallation of AP" – "8. Free Layout Print Software".

8) Insert the DR-ID 300CL V7.0 Application Disk into the DVD drive.

9) The setup menu of the Console Advance appears automatically.
If not, select [Start] – [Start Search], input “D:\Setup.bat” and then press the <Enter> key.



10) Enter "5" and press the <Enter> key.
11) Select "IIP" in the "Programs and Features" window. The Console is uninstalled.
12) The system returns to the setup menu. Enter "2" and press the <Enter> key.
13) When the "Welcome to the InstallShield for IIP" window appears, click the "Next" button.
14) When the "Ready to Install the Program" window appears, click the "Install" button.
15) When the "InstallShield Wizard Completed" window appears, click the "Finish" button. The system returns to the setup menu.
16) For the systems in which the precise enlargement software has been installed, install the precise enlargement software.
Enter "60" and press the <Enter> key. * The following steps are the same as for V4.0 (Firewall settings are not required when installing)
17) For institutions where the users are using the free layout print software, install the free layout print software.
Enter "65" and press the <Enter> key. * The following steps are the same as for V6.0 (Refer to the Service manual – “Installation-Appendix (AppxIN)" – “Appendix 30 Free Layout Print”.)
18) The system returns to the setup menu. Enter "0" and press the <Enter> key.

19) Restore “Overlay Setting File” manually, which was backed up into the directory where the file had originally been stored in step 5.
20) V7.0 enables LUT setup for the primary monitor and the secondary monitor separately. Set up the LUT in the Service Utility if the system has the secondary monitor connected. ([Setup Configuration Item]-[LUT]-[2nd Monitor LUT])
21) The location of tube configuration data, which was stored in TubeConfig.ini file in V6.2 or earlier, has been changed to Selector.mdb in V7.0. For this reason, set up the tube configuration data under the selector settings in the Service Utility.
22) Click "(Root):\tools\FirewallSetting.bat" on the DR-ID 300CL V7.0 Application Disk.
23) When "Press any key to continue…" appears, press the <Enter> key.
24) For the systems that are connecting to the TOSHIBA modality,
click “(Root):\tools\CopyReserveCode1FromMicroAs.bat” in the DR-ID 300CL V7.0 Application Disk.
25) When a confirmation dialog appears, press the “OK” button. (Twice in total.)
△1 26) Click "(Root):\tools\ DeleteReceiveDateAndReceiveTime¥DeleteReceiveDateAndReceiveTime.bat " on the DR-ID 300CL V7.0 Application Disk.
27) When "Press any key to continue…" appears, press the <Enter> key.
28) Remove the DR-ID 300CL V7.0 Application Disk from the DVD drive.

4.3 Replacing the default settings of exposure condition (XconParam.mdb) (if necessary)

As the default values of exposure conditions have been changed to reliable CR console values from V7.0, replace XConPara.mdb if necessary （Refer to “9. Revised default settings of exposure condition（XconParam.mdb）” in “Appendix-A_Function settings”）
Caution: Replacing XConParam.mdb changes all the menu settings to default.

4.4 Installing menus for mammography, tomosynthsis and film to monitor conversion

Install the menus for mammography (exposure menus and image processing parameters), Tomosynthsis and film to Monitor Conversion. *Refer to 4.1 Note 6) above.
1) Insert the DR-ID 300CL V7.0 Application Disk into the DVD drive.
2) Execute “D:\tools\ ExtendedParamConvertTool\ ExtendedParamConvertTool.bat“ in Explorer.
3) Enter “2” (From Console Advance).
4) Enter “y” for “Add Mammography Menu?”.
5) Enter “n” or “y” (if necessary. Enter “n” if Tomosynthsis menu has already been used.) for “Add Tomosynthesis Menu?”.
6) Enter “2 (US)” or “3（outside US）” for “Select Language”.
7) Enter “1” (for film) or “2”(for monitor) for ”Select Parameter Type”.
8) Enter “1” for “Select Xcon Parameter Type”.
9) Enter “n” or “y” (if necessary. Enter “n” if the image processing parameter for the monitor has already been used) for “Film to Monitor Conversion”.
10) Enter “y” for “Do you want to implement?”
11) Enter “y” for “Do you want to apply the system?”.
12) Enter “0”(Quit).
13) Remove the DR-ID 300CL V7.0 Application Disk from the DVD drive.
△1 （Refer to “Appendix -B: Extended parameter convert tool ” for details.）

4.5 Installing the electronic manual

Install the electronic manual.

4.6 Additional setup items for the systems using Media Storage function for DVD media (if necessary)

V7.0 includes the countermeasures, which have been provided in HF4000(Base:V4.0)(ECN 2012-E-0106), against the errors occur in the media storage.

Subject	Contents of countermeasures
Write error occurs in the media storage.	The countermeasures, which are equivalent to CR-IR355CL, have been taken. ・ Variable remaining capacity when writing. ・ Automatic ejection when unmounting.

	・ Variable waiting time when ejecting. ・ Variable waiting time when terminating. In addition, the media file lock is released before ejection.

The following parameters can be changed. Change them if necessary.

・ Waiting time for terminating the application (sec.) (managed in the setup file)
File name : C:\Program Files\FujiFilm\IIP\System\MediaStorage.exe.config
Tag : 〈configuration>
<appSettings>
<add key="ProcessEndMarginTime" value="3"/>
</appSettings>
</configuration>
Upper limit : 20
Lower limit : 1
Default : 3
Edit XML file manually if necessary.

・ Remaining capacity (MB)（managed in registry）
Key :HKEY_LOCAL_MACHINE\SOFTWARE\FujiFilm\IIP\Media\MediaVolumeLimit
Type :REG_DWORD
Upper limit :2100
Lower limit :21 (default)
This key has already been existed. As the key used only the registry value, it has been changed to check the upper and lower limit.

・ Waiting time for ejecting (sec.)（managed in registry）
Key :HKEY_LOCAL_MACHINE\SOFTWARE\FujiFilm\IIP\Media\EjectMarginTime
Type :REG_DWORD
Upper limit :None
Lower limit :3 (Default value without key)
The key is not generated when CL Application is being installed. Set it up if necessary.

4.7 Confirming the installation

1) Restart the PC and confirm that Console application starts up without errors.

5 Cautions

5.1 Caution: error when using SynapseWebQuery on upgraded Console

The message “GetPixels failed with error: CDicomImgSrc::GetPixels...Failed to process image” may appear and it disables image reference function when using SynapseWebQuery where the Console application software has been upgraded from the old version the latest version.

In this case, reinstall the SYNAPSE client application.

5.2 Caution: operation prohibited during RAID reconstruction

Do not use Console while RAID reconstruction is in process. Console may not work properly.

5.3 Caution: shot switch disabled when connection to D-EVO is established

When the shot SW1 is turned ON/OFF while the connection to D-EVO is being established, the shot may not be performed even when the Ready is lit.
In this case, select the menu again and continue the operation.

5.4 Caution: wrong image orientation after reading study data output to media in non-FUJI original format

The orientations of the images might be changed when reloading image data that was output to media without the Fuji original SOP Classes and then making some changes (such as menus).
Confirm image orientation after changing menus, and then execute the processing.

5.5 Cautions for DVI connection between PC and monitor

- Turn on the monitor before PC when connecting PC and monitor with DVI. The display size of the Console screen may become small if the monitor is turned on after PC.

- The following message may appear when the PC was left untouched over 20 minutes and then operation is resumed from the status that the monitor is OFF.

  [OM30005] The screen resolution has been changed.
  ● Please restart the system

Restart is not necessary because pressing the OK button on the dialog can continue the operation.

5.6 Caution: use Simple Ordering Function when importing large patient information

A large number of patient information files cannot be received while Console Application is up and running. Therefore, perform the following procedure when importing a large number of patient information files at the time of system installation.

1. Terminate Console Application.
2. Send the patient information files from the ordering device to Console where Console application has been terminated.
3. Start up Console. (The patient information files transferred in step 2 above are imported to Console after it starts up.)

5.7 Caution: smaller time out value for PPS connection disabling operation

The study list of Console may be locked, which disables operations if the connection to PPS is not established (due to a line disconnection, etc) under the condition of small time out value for the PPS connection. To prevent this phenomenon, set up DICOM PSS as follows.
In the setting of DICOM PPS within a local Console (Service Class:Modality Performed Procedure Step, Role:SCU), set the time out value to a default value “15” or greater.

5.8 Caution: DX Image Storage For Processing prohibited

The device, Synapse, to connected to has not been supported although the support of the DI COM Digital X-ray Image Storage - For Processing has been notified in the ECN No.2011-E-0290Rev.1 software information of V6.0.
Therefore, do not set up DICOM Digital X-ray Image Storage - For Processing.

5.9 Caution: no device to output shuttering setting with the file attribute

Although V5.0 was equipped with a function to output the shuttering processing area as supplementary

information, no device can use the information so far. Therefore, be sure to set “Apply mask processing to the image” to the setup item of Mask Processing in the registration of the other device (settings of DICOM SCP) on Console in V5.0 or later.

5.10 Setting for marking stitched portions when making stitched images

Set up the following to mark the stitched portions on images.
（[Setup Configuration Item]-[SYSTEM CONFIG]-[1. IMAGE MODALITY]-[70. Enable Marking Stitched Image] Select [Yes].）

5.11 Cautions: at the time of new system installation

・The icon for the selector to set up will be the one for 1M/2M（ST_NonTubeCRC.png）if StandardKIT(Mobile) has been used. In this case, change it to the icon file for 0.7M（ST_NonTubeCRC_**S**.png）in the Service Utility.
・Comparing to DELL PCs, HP PCs make bigger sound when registering IPs. Attach external speakers only when they are necessary.

5.12 Troubleshooting the freeze occurring when Console is left untouched for a certain length of time

A phenomenon has been reported from the market. Console freezes when it is left alone for a certain length of time after it is used. Refer to ECN 2012-E-0229 for details of the troubleshooting procedure that has been released.

5.13 Settings for using DX Storage for general studies (other then Mammography studies)

DXV7.0 enables settings under [1.IMAGE MODALITY]-[35:Modality Setup for Mammography Image] in the Service Utility. Select [2:MG] in [35:Modality Setup for Mammography Image] when using DX Storage（if [0:DX] is selected in [54:Modality Setup]）.

			MPM code	
	54: Modality Setup	35: Modality Setup for Mammography Image	General study（other than x3xx）	Mammography study（x3xx）
Modality Setup（System setup）	0:DX	0:MG	DX	MG
	0:DX	1:CR	*Prohibited	
	1:CR	0:MG	CR	MG
	1:CR	1:CR	CR	CR

5.14 Disabling Mammography function (for US only)

Disable the mammography function in the US.（until 510k clearances are granted）
Refer to "1.2. Disabling Mammography function（for US only）” in "Appendix-A_Functional Settings” for details of the procedure.

5.15 Caution about displayed message [MD3009]

If Console operation is continued where the message [MD30009] left displayed on screen, the message [MD30009] appears again when ShotSwitch is pressed, which disables image retrieve.

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[MD30009] The conditions that do not allow an exposure to start have been sent from an external device.
> Please check the exposure conditions of the external device.

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The message [MD30009] appears when the exposure conditions become inconsistent between CR-IR 300CL and CU.
Provide a notice for users to prevent them from continuing operation on DR-ID 300CL when the message [MD30009] appears. Make the users be informed that it is required to confirm the message and then to click [OK] to close it in such case.

5.16 Supported Version Information for Connected Device

The versions of devices which can be connected to DR-ID 300CL V7.0 are shown below.

(1) FCR image reader
There is no change from the previous version in the connectable models of the FCR image readers and their versions.

For PROFECT-P, which is to be supported from V7.0, the following versions are supported.
FCR PROFECT-P : V4.0

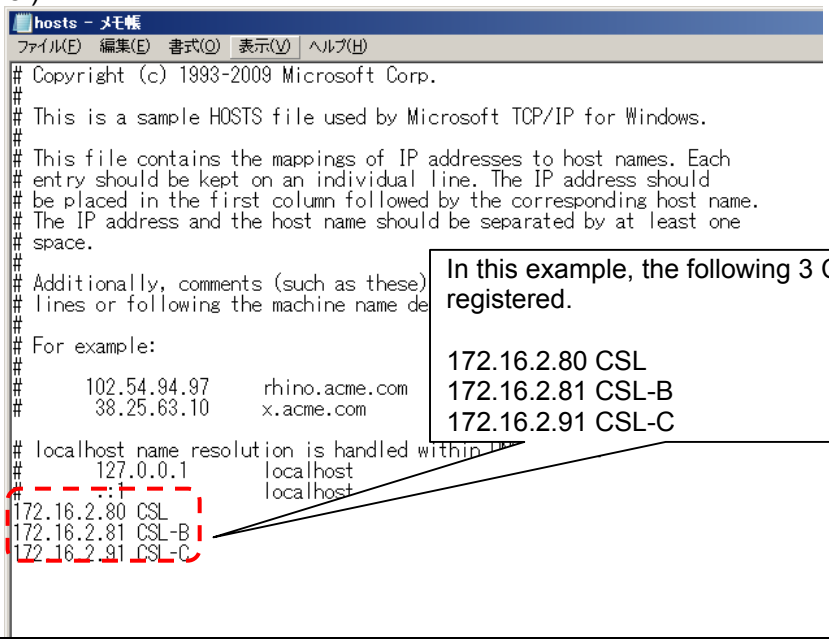
(2) Control Unit
The following control units can be connected with V7.0.
- MC V3.6 or later
- CU V3.7 or later: FDR AcSelerate, CALNEO U
  (* However, in case of AcSelerate-III connection: CU V4.1 or later)

(3) PPU
Tomosynthesis Application Software which can be connected to V7.0 are V1.2 or later.

6 Limitations

The DR-ID 300CL Application Software V7.0 has the following operational limitations.

No.	Operational limitations
1	In clustering, images cannot be output to media during the integrated output processing. → Do not output images to removable media during the integrated output processing. (During the distributed output processing, images can be output to media within Console.)

No.	Operational limitations
2	In clustering, the study information may not be obtained. → If the study information cannot be obtained during the operation confirmation after setup, start up “C:\Windows\System32\drivers\etc\hosts” with the text editor. At the end of the file, add the IP address and host name of Console with which the study information is shared, overwrite, and save the hosts. (Enter a single-byte space between the IP address and host name.) 
3	Pressing the exposure button and the study completed button simultaneously may disable image input, causing an image loss where VELOCITY is connected. → (1) Do not press the exposure button and click the study completed button simultaneously. (2) Restart VELOCITY if the phenomenon of no image input occurs in this case.
4	The menus on Console does not reflect the changes in the reference position of trimming made on the tube monitor of FDR AcSelerate/CALNEO U when setting 10”x14” trimming. →Be sure to change reference position of menus on Console. Note） This phenomenon does not occur when VELOCITY is connected.
5	Do not use the grid density gradient reduction function (portable exposure alignment detection) on V7.0 （Option Key: Grid Shading Reduction Key Software V1.0 (114Y2150133B00)） ・Console freezes at the time of image input, which requires a forced termination. ・Do not acquire images if a message of image reacquision appears. Console freezes at the time of image input. Note） This limitation will be removed on V7.1.

7 List of attachments

No.	Items	Names
1	Functional Settings	Appendix-A
2	Extended parameter convert tool	Appendix-B
3	List of Changes in SYSTEM CONFIG	Appendix-C
4	List of Changes in Conformance Statement	Appendix-D

DR-ID 300CL V7.0 ECN_Appendix-A Functional Settings

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1 2430C Connection

1.1 Outline

It supports the image read using indirect conversion Flat Panel Detector “2430C” that applies a newly developed CsI scintillator.
MC software V4.0 or later is required.

1.2 Option key

None.

1.3 Details

1. Automatic trimming
Retrieved images are automatically trimmed according to their sizes when receiving images from DR cassette reader unit.
See the following for the case of 24cm x 30cm fixed size.

24cm x 30cm images *
24cm x 30cm(no trimming), 8" x 10"

*The retrieved image 23.4cm x 28.8cm in size is trimmed and displayed in 24cm x 30cm.

2. Trimming settings
Refer to the table below for the trimming sizes for the case of images 24cm x 30cm in size.

	Actual trimming frame size	
	Read image size	24cm x 30cm
Specified trimming size *1	No trimming	23.4cm x 28.8cm
	17" x 17"	Cannot be specified
	14" x 17"	Cannot be specified
	14" x 14"	Cannot be specified
	10" x 14"	Cannot be specified
	10" x 12"	Cannot be specified
	8" x 10"	8″ x 10″
	8" x 14"	Cannot be specified
	7" x 8"	7″ x 8″
	7" x 10"	7″ x 10″
	5" x 8"	5″ x 8″
	18cm x 43m	Cannot be specified
	24cm x 30cm *2	Cannot be specified
	18cm x 24cm *3	Cannot be specified

Note
*1 The sizes that can be specified are selectable in the Service Utility.
IMAGE MODALITY item 317:Enable trimming Size1
IMAGE MODALITY item 318: Enable trimming Size2
*2 Console Advance V7.0 cannot specify 24cm x 30cm trimming size.
Release the trimming setting when resizing the images acquired by 2430C to 24cm x 30cm.
*3 The images acquired by DR cassette cannot be trimmed to 18cm x 24cm in size.

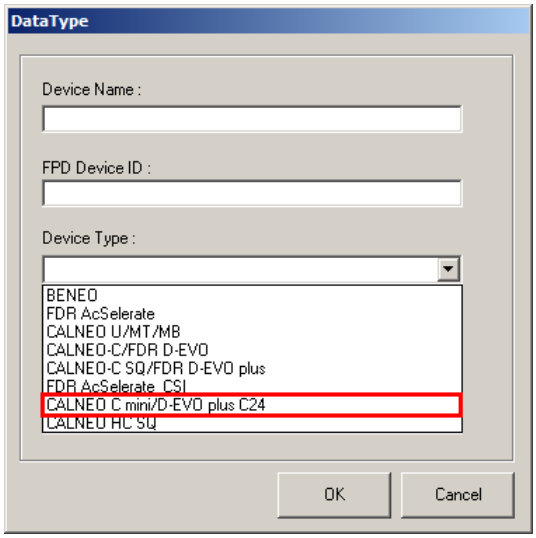
1.4 Settings

1.4.1 Service Utility Settings

The additional device type items for registering the reader unit in the Service Utility are as follows. Set up the device type for 2430CsI.
［Device Setting］→［Add］/［Modify］→［Device Type］

Device Type	Note
CALNEO C mini / D-EVO plus C24	Select it in the case of 2430CsI.
CALNEO HC SQ	Select it in the case of HandyModule. (Applicable only in Japan)

Select "CALNEO C mini / D-EVO plus C24” from the [Device Type:] list.



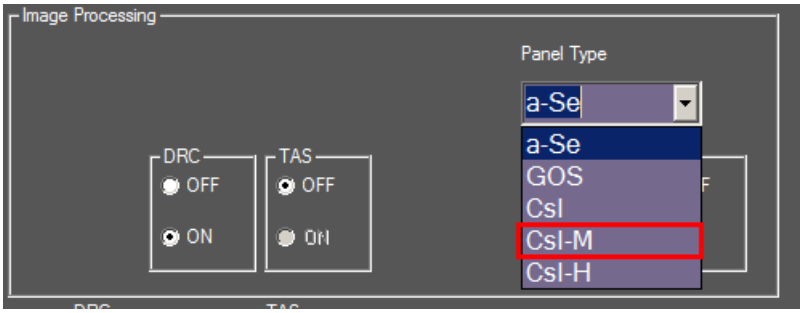
Note
Set up the following items to distinguish the panel when registering the DR cassette in the Service Utility.
Device setting: Device Color, Device Name.
Selector setting: Caption

1.4.2 User Utility Settings

The additional panel type items in the User Utility are as follows. Preset the image processing parameter that is exclusively for 2430CsI.
［Menu Setting］→Select a menu and click ［Edit］→［Setting for DR］ at the bottom of the window→［Exposure parameter 1］→［Image Processing parameter setting］ →[Image Processing]→[Panel Type]

Panel type	Note
CsI-M	Select it in the case of 2430CsI.
CsI-H	Select it in the case of HandyModule. (Applicable only in Japan)

Select “CsI-M” for [Panel Type].



1.5 Effects on the other functions

None

1.6 Cautions

None

2 Integrated MC

2.1 Outline

Modularized MC configuration has realized the integrated MC, which does not require a PC for MC.
That configuration enables exposures using DR cassette as is conventionally done.
Also, This function calibrates DR cassette each time Console is terminated.

MC software V4.0 or later is required. *Refer to the relevant ECNs for details of supported panel types.
4GB memory (additional 2GB to the standard requirement) and two LAN ports (additional NIC card extension to the standard requirement) are required for the PC of Console Advance.

2.2 Option key

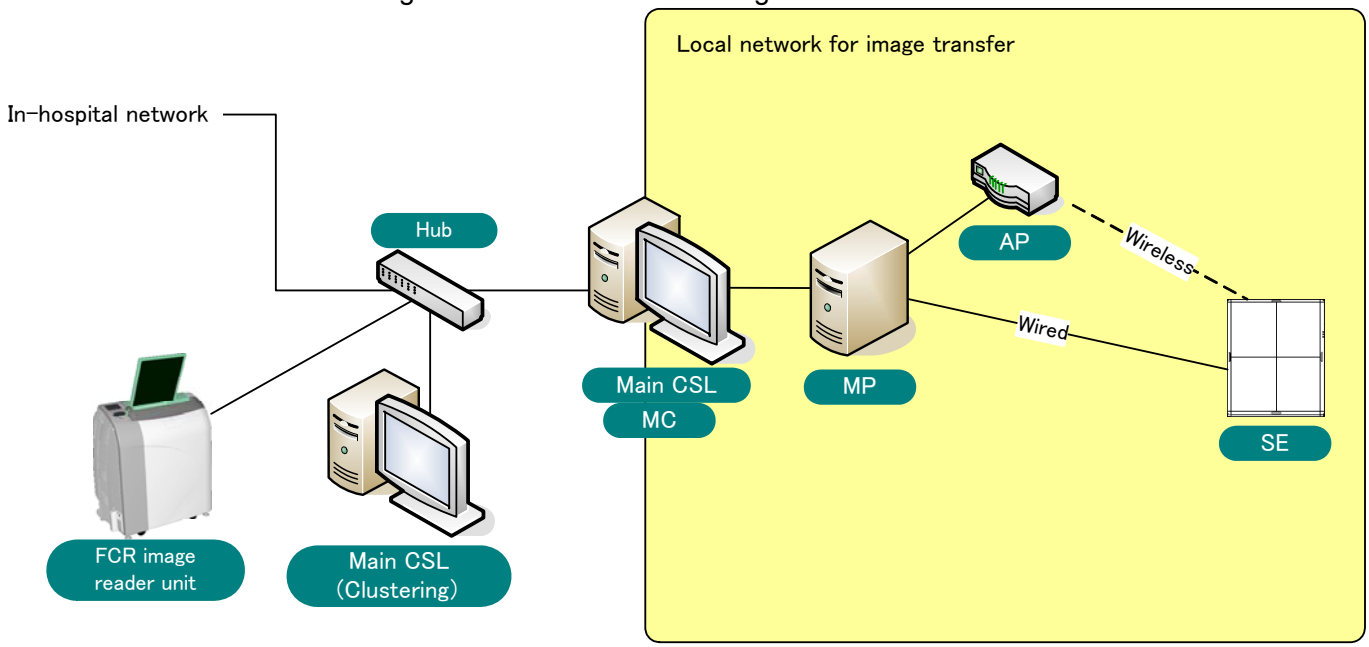
None.

2.3 Details

■Integrated MC configuration

▼Configuration example1) Single MC configuration

- Install MC application (software) in Console Advance.
- Console Advance receives images from DR cassette reading unit.

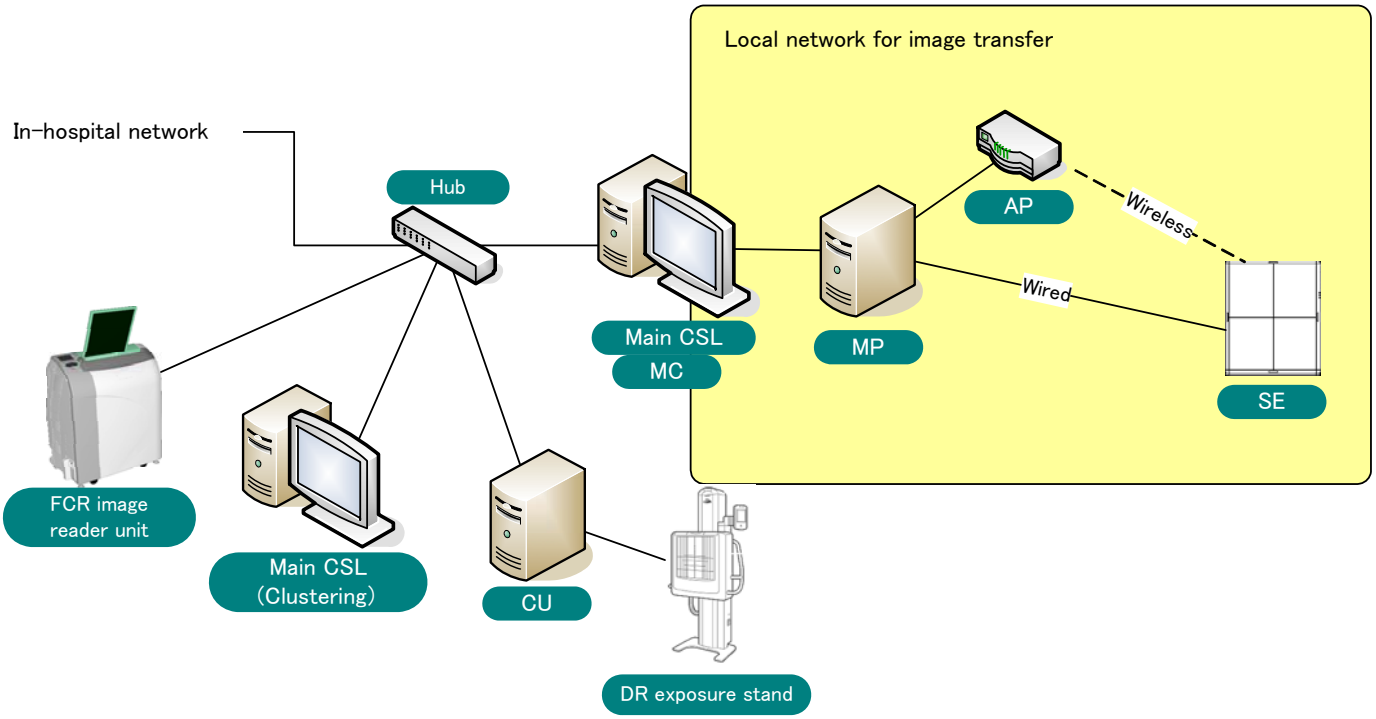


The applicable scope of this configuration is as follows.

- ・D-EVO
- ・VELOCITY
- ・PRELIO
- ・FCR Cassette Image Reader
- ・(Reference: DR-ID700 will be connected after it enables to support this configuration.)

▼Configuration example: 2) the configuration combined with CU

- Console Advance receives images from DR cassette reader unit.
- Console Advance receives images of DR system from CU.



The applicable scope of this configuration is as follows.

- ・CALNEO U/M
- ・D-EVO
- ・VELOCITY
- ・PRELIO
- ・FCR Cassette Image Reader
- ・Connection with DR-ID700 is not supported.

■Hardware requirement of integrated MC configuration

The integrated MC configuration requires following hardware.

*Memory expanded from the system running on V6.2 or earlier（2GB→4GB）

Expand the memory to 4GB in the case of standard PC. Memory expansion is not required if the integrated MC is not installed in Console Advance.

（For desktop PC）

Item	Specification
RAM	4GB
LAN	Extended network card （two LAN ports are necessary） －the on-board network card: connected to in-hospital network －Extended network card: connected to local network for image transfer

（For mobile PC）

Item	Specification
RAM	4GB
LAN	USB wireless LAN adapter （Two wireless LAN ports including on-board are necessary in case wireless LAN is used for both in-hospital network and local

	network for image transfer) －the on-board network card (wired): connected to in-hospital network/ local network for image transfer －the on-board network card (wireless): connected to in-hospital network/ local network for image transfer －Extended network card (wireless): connected to in-hospital network

■Synchronized startup with Console

(Startup)

Console and MC application start up simultaneously when Console PC is turned on.

(Termination)

Synchronized with termination of Console, MC application terminates under the following conditions.

・Normal termination of Console

・Shift termination of Console

・Forced termination of Console upon occurrence of power outage

MC application does not terminate under the following condition.

・Activation of the User Utility

Calibration is performed when Console terminates.

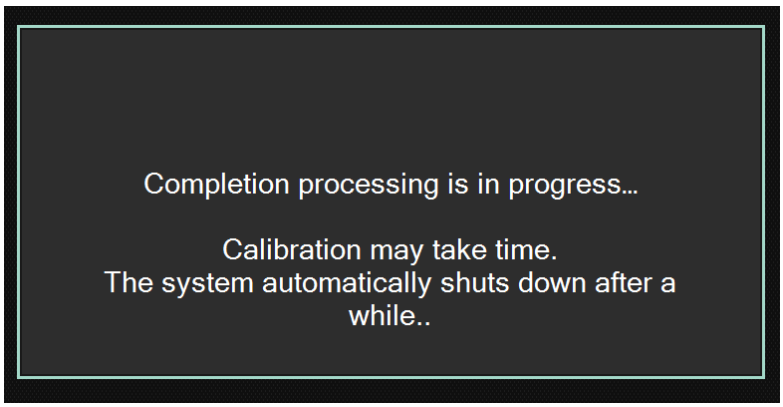
・The system does not shut down until the calibration processing is completed.

・The system shuts down after the calibration processing is completes.

*Details of the calibration processing are as follows.

■Calibration processing during termination of Console

Termination of Console takes time as the calibration is performed each time Console terminates normally. The following message appears in case [Display Calibration Dialog] has been set up in the system settings.



*The calibration is not performed under the following conditions.

・Shift termination of Console

・Forced termination of Console upon occurrence of power outage

・Forced termination of Console upon occurrence of error

・Activation of the User Utility

*Refer to the relevant ECN concerning MC for details of time required for the calibration.

2.4 Settings

【Cautions concerning installation】

In the case of mobile PC installation, a multimedia drive is required as a service jig for installing the application software in CDs.

Install the MC application (114Y2194xxxAxx) in the PC where Conosle Advance V7.0 has already been installed.

Refer to the service manual of MC application or relevant ECN for the procedure.

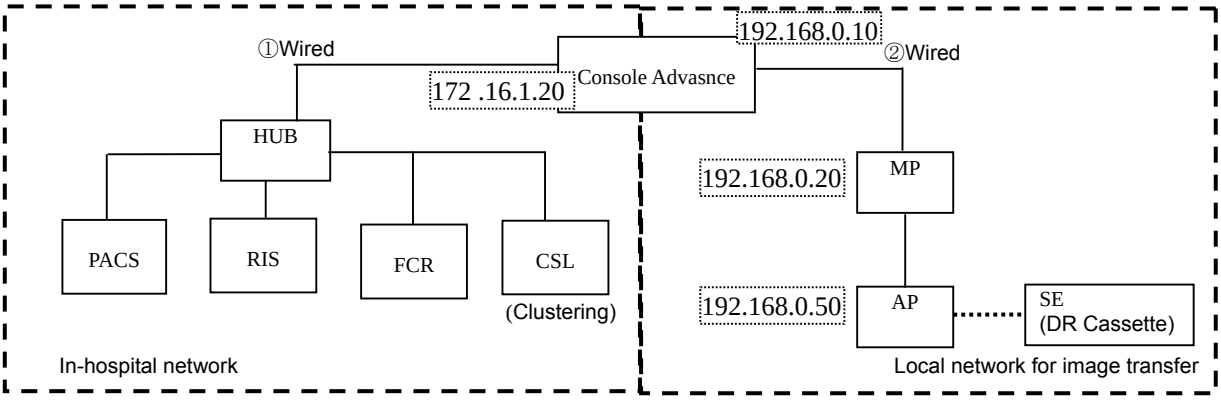
2.4.1 Network configurations

Note the following cautions because integrated MC configuration requires two LAN ports.

- Do not use duplicated IP addresses.
- Do not set IP addresses in the same subnet for the two ports.
- Set up priority of network bindings appropriately.

■In the case of desktop PC

＜System configuration example＞



Wired in-hospital network＋Wired local network for image transfer

Installing extended NIC

Cautions

・For the case of HP 6200ProSF / 8200EliteMT:

→Install NIC Board Driver after EXPI9301CT（PCIExpress board） has been installed.

・For the case of DELL Optiplex 780DT:

→Install PWLA8391GTL（PCI board）.（*1）

・For the cases other than above:

→Install EXPI9301CT（PCIExpress board） only. Installation of NIC Board Driver is not necessary.

(*1) DELL Optiplex 780DT has only one expansion slot for PCIExpress (other PCs have multiple slots). Taking possibility of secondary monitor installation into consideration, keep the slot for the secondary monitor. Therefore, use PCI board extended NIC instead of PCIExpress board).

○Installing EXPI9301CT（PCIExpress board）

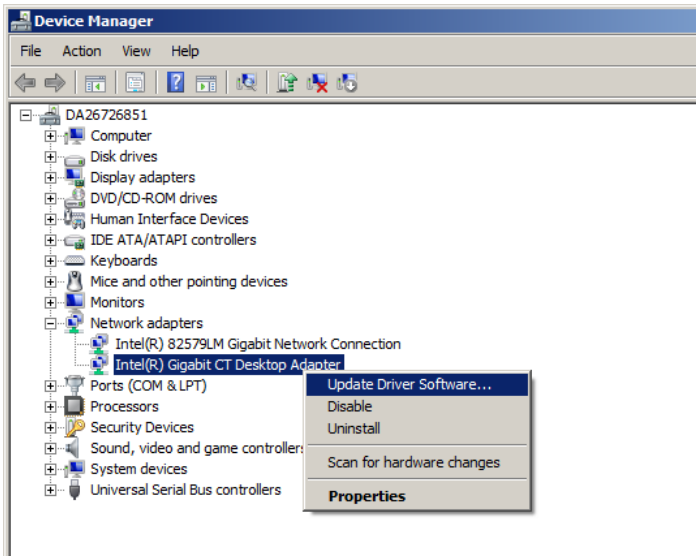
1) Shut down the PC and remove all the cables connected to the PC.
2) Remove the cover of the PC.
3) Turn up the card hold latch to remove the filler bracket placed in the card slot opening of unused PCIExpress card.
4) Insert the board into the unused PCIExpress card slot.
5) Turn down the cardholder latch to fasten PCIExpress board.
6) Put the cover back on the PC.
7) Attach all the cables removed in step 1) above.
8) Connect on-board NIC to in-hospital network and extended NIC to local network for image transfer.
9) Turn on the PC.

*Note）Perform the following driver updating procedure only for the case of HP 6200ProSF / 8200EliteMT.
（Do not perform the following procedure on DELL PC）

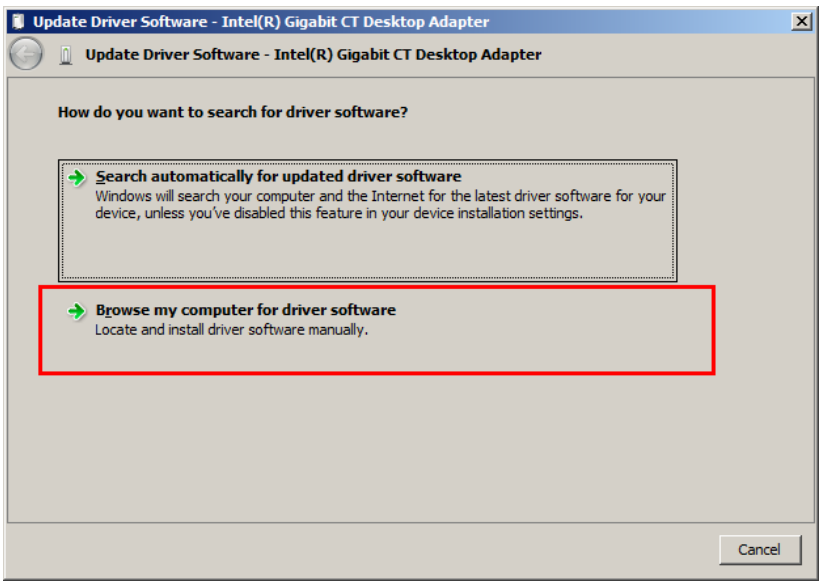
10) Insert the “Option NIC Board Driver CD (114Y2150764B00)” into DVD drive.
11) Open the Control Panel from the Start menu.
12) Select the items as follows.
-[Control Panel]

- [Device Manager]
- [Network adapter]

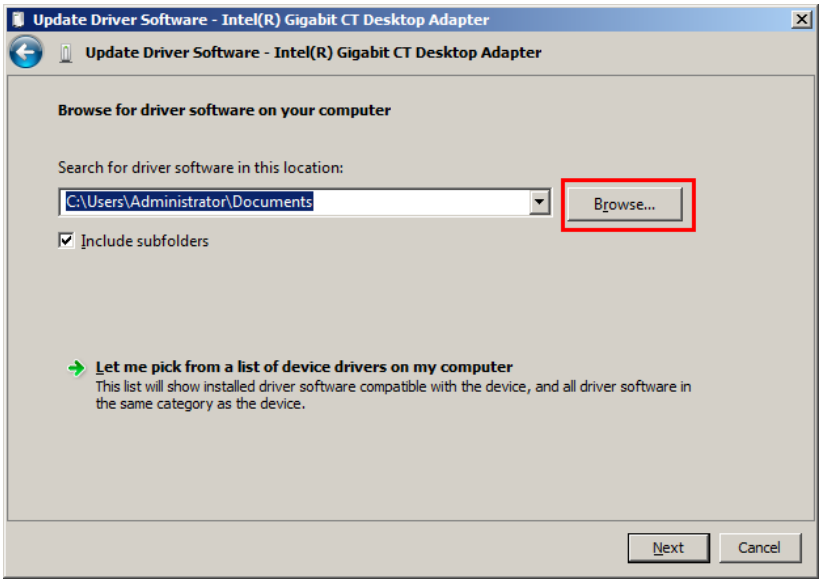
13) Select the extended NIC and right-click it to select [Update Driver Software…].



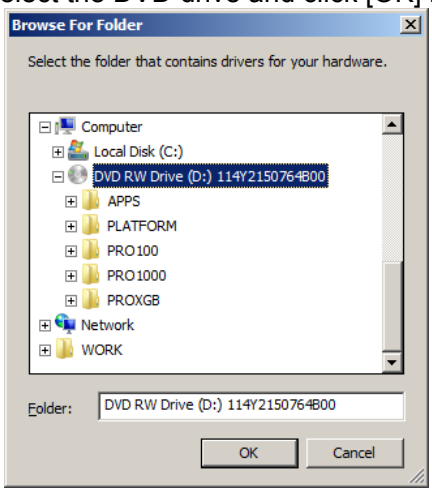
14) Select [Browse my computer for driver software].


Update Driver Software - Intel(R) Gigabit CT Desktop Adapter
Update Driver Software - Intel(R) Gigabit CT Desktop Adapter
How do you want to search for driver software?
Search automatically for updated driver software
Windows will search your computer and the Internet for the latest driver software for your device, unless you've disabled this feature in your device installation settings.
Browse my computer for driver software
Locate and install driver software manually.
Cancel

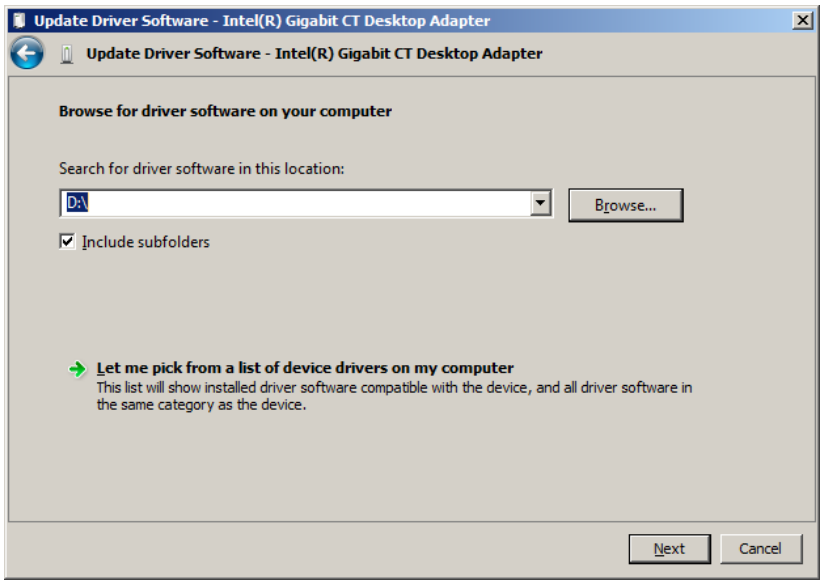
Click [Browse] button.


Update Driver Software - Intel(R) Gigabit CT Desktop Adapter
Update Driver Software - Intel(R) Gigabit CT Desktop Adapter
Browse for driver software on your computer
Search for driver software in this location:
C:\Users\Administrator\Documents
Browse...
Include subfolders
Let me pick from a list of device drivers on my computer
This list will show installed driver software compatible with the device, and all driver software in the same category as the device.
Next
Cancel

15) Select the DVD drive and click [OK] button.

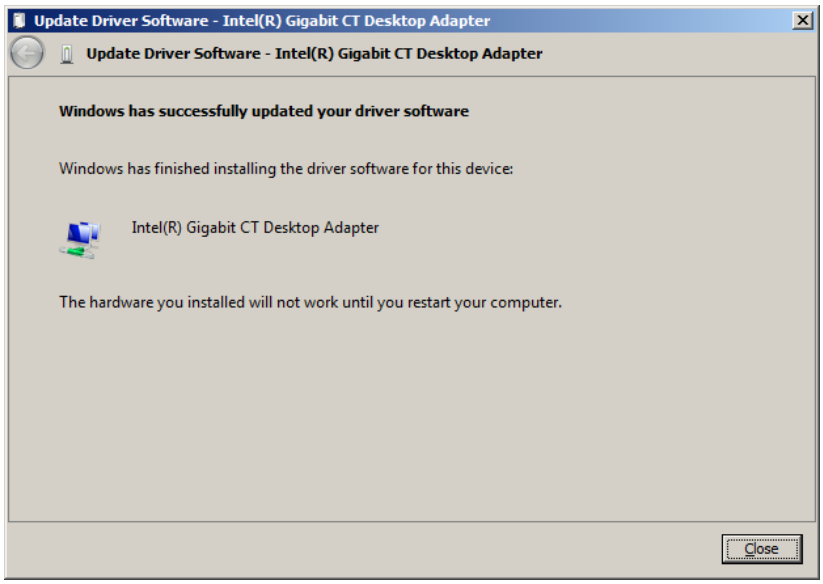


16) Click [Next].

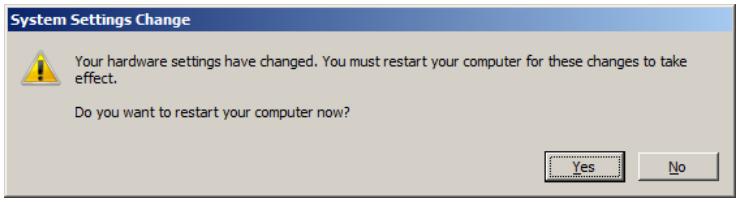

Update Driver Software - Intel(R) Gigabit CT Desktop Adapter
Update Driver Software - Intel(R) Gigabit CT Desktop Adapter
Browse for driver software on your computer
Search for driver software in this location:
D:\
Browse...
Include subfolders
Let me pick from a list of device drivers on my computer
This list will show installed driver software compatible with the device, and all driver software in the same category as the device.
Next
Cancel

After a while, the driver software will be updated and a message window notifying completion of driver installation will appear.

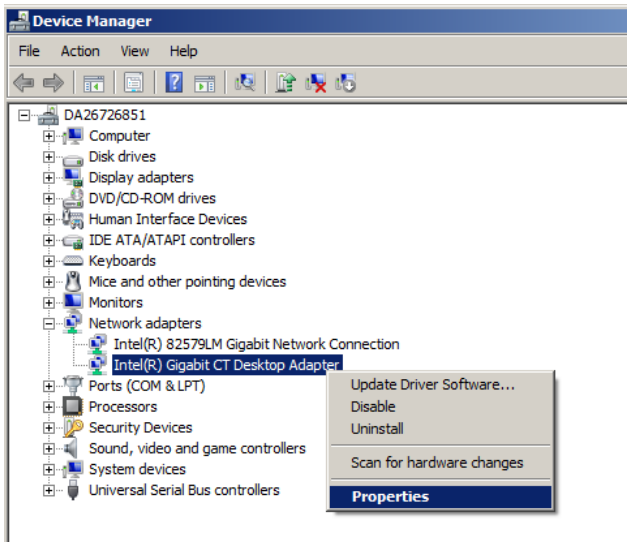
17) Click [Close] in the message window.


Update Driver Software - Intel(R) Gigabit CT Desktop Adapter
Update Driver Software - Intel(R) Gigabit CT Desktop Adapter
Windows has successfully updated your driver software
Windows has finished installing the driver software for this device:
Intel(R) Gigabit CT Desktop Adapter
The hardware you installed will not work until you restart your computer.
Close

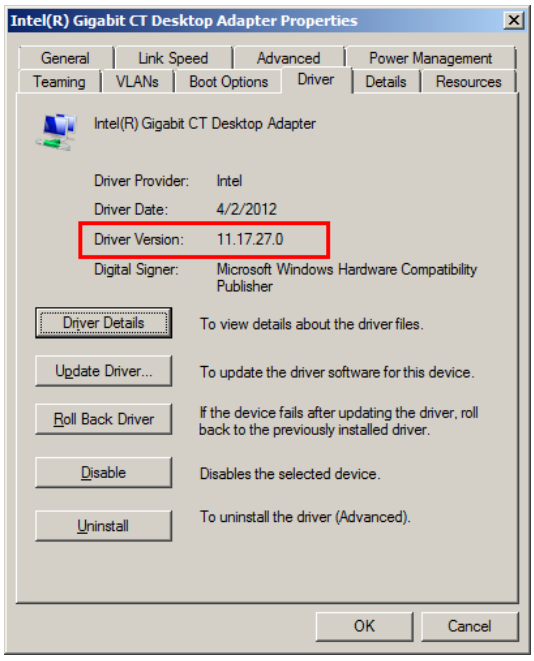
18) Click [No] when “System Setting Change” message appears.


System Settings Change
Your hardware settings have changed. You must restart your computer for these changes to take effect.
Do you want to restart your computer now?
Yes
No

19) The window returns to the [Device Manager]. Select the extended NIC and right-click it to select [Properties].



20) Select the [Driver] tab to ensure that the driver version has been updated to “11.17.27.0”.



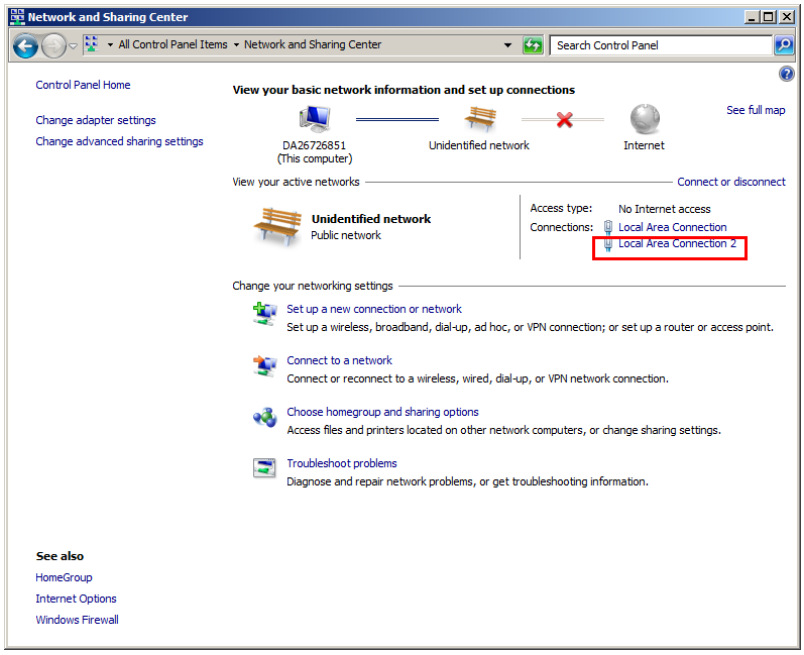
21) Close the [properties] window.
22) Close the device manager window.
23) Remove the “Option NIC Board Driver CD” from DVD drive.
24) Restart the PC.

○Installing PWLA8391GTL（PCI board）:

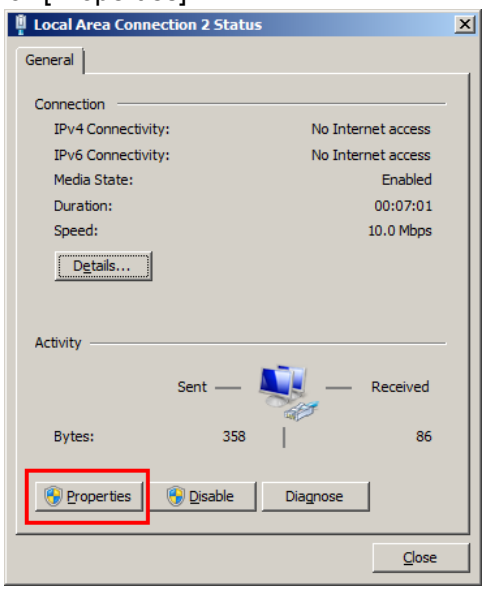
1) Shut down the PC and remove all the cables connected to the PC.
2) Remove the cover of the PC.
3) Turn up the card hold latch to remove the filler bracket placed in the card slot opening of unused PCI card.
4) Insert the board into the unused PCI card slot.
5) Turn down the cardholder latch to fasten PCI board.
6) Put the cover back on the PC.
7) Attach all the cables removed in step 1) above.
8) Connect the extended NIC to in-hospital network and on-board NIC to local network for image transfer.
9) Turn on the PC.

Setting up IP address for extended NIC

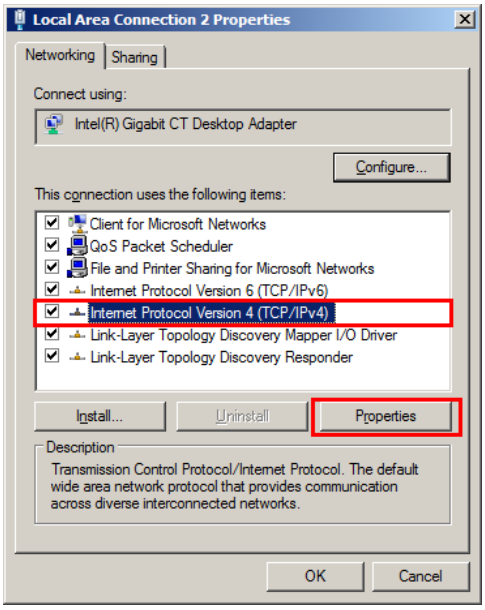
1) Open the Control Panel from the Start menu.
2) Open [Network and Sharing Center] to click [Local Area Connection 2].


Network and Sharing Center
All Control Panel Items ▸ Network and Sharing Center
Search Control Panel
Control Panel Home
Change adapter settings
Change advanced sharing settings
View your basic network information and set up connections
See full map
DA26726851
(This computer)
Unidentified network
Internet
View your active networks
Connect or disconnect
Unidentified network
Public network
Access type: No Internet access
Connections: Local Area Connection
Local Area Connection 2
Change your networking settings
Set up a new connection or network
Set up a wireless, broadband, dial-up, ad hoc, or VPN connection; or set up a router or access point.
Connect to a network
Connect or reconnect to a wireless, wired, dial-up, or VPN network connection.
Choose homegroup and sharing options
Access files and printers located on other network computers, or change sharing settings.
Troubleshoot problems
Diagnose and repair network problems, or get troubleshooting information.
See also
HomeGroup
Internet Options
Windows Firewall

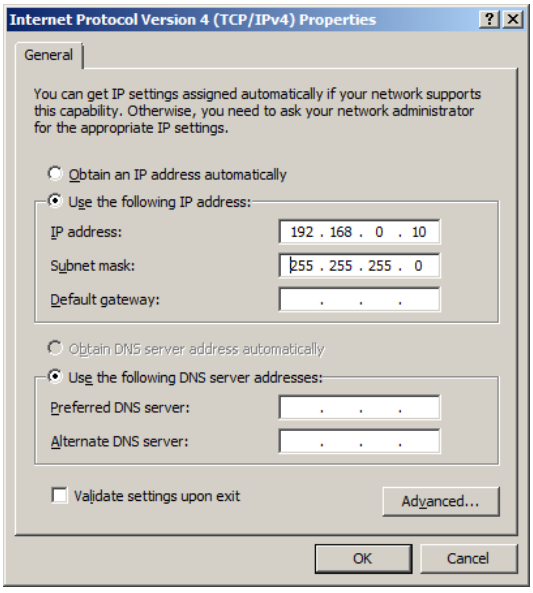
3) Click [Properties].



4) Select [Internet Protocol Version4 (TCP/IPv4)] and then click [Properties].



5) Select [Use the following address] and set up the following.
IP address: [192.168.0.10]
Subnet mask：[255.255.255.0]
Others: （Blank） Do not enter values.
*Input values are examples.

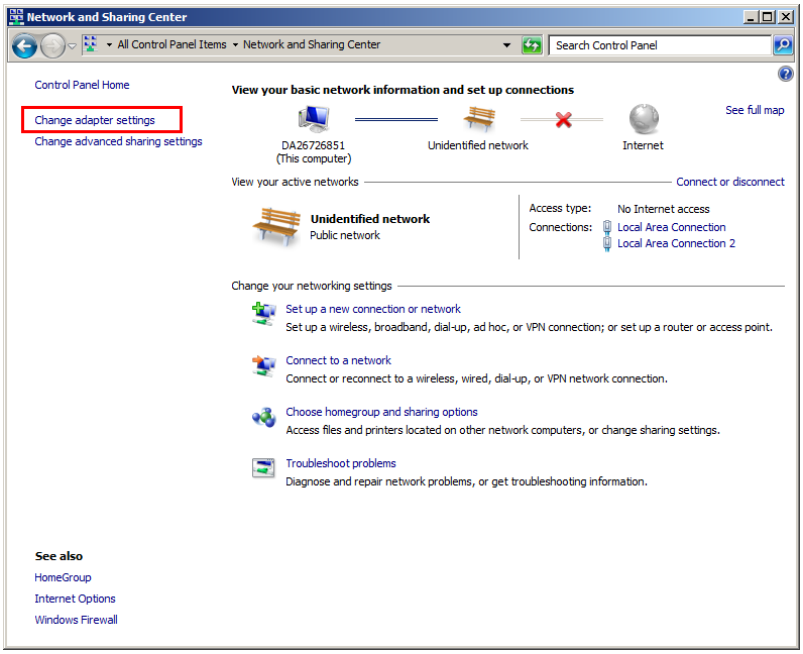

Internet Protocol Version 4 (TCP/IPv4) Properties
General
You can get IP settings assigned automatically if your network supports this capability. Otherwise, you need to ask your network administrator for the appropriate IP settings.
Obtain an IP address automatically
Use the following IP address:
IP address: 192 . 168 . 0 . 10
Subnet mask: 255 . 255 . 255 . 0
Default gateway:
Obtain DNS server address automatically
Use the following DNS server addresses:
Preferred DNS server:
Alternate DNS server:
Validate settings upon exit
Advanced...
OK
Cancel

6) Click [OK] to close the window.

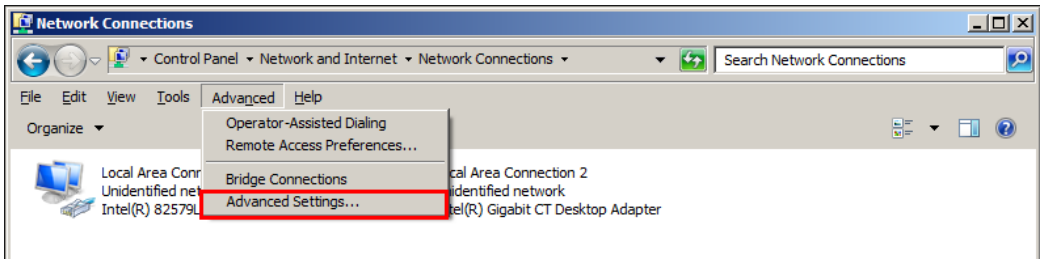
Setting priority of network bindings

Set up the priority of network bindings in the following order: 1) on-board (in-hospital network)→2) extended NIC(local network for image transfer).

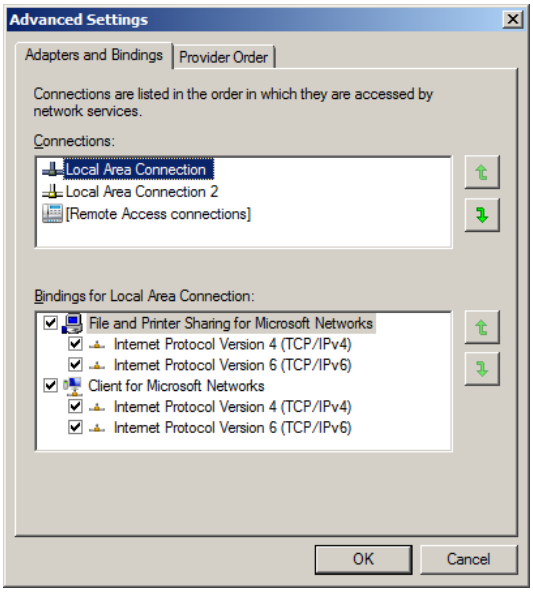
1) Open the Control Panel from the Start menu.
2) Open [Network and Sharing Center] and then click [Change adapter setting].


Network and Sharing Center
All Control Panel Items ▸ Network and Sharing Center
Search Control Panel
Control Panel Home
Change adapter settings
Change advanced sharing settings
View your basic network information and set up connections
See full map
DA26726851
(This computer)
Unidentified network
Internet
View your active networks
Connect or disconnect
Unidentified network
Public network
Access type: No Internet access
Connections: Local Area Connection
Local Area Connection 2
Change your networking settings
Set up a new connection or network
Set up a wireless, broadband, dial-up, ad hoc, or VPN connection; or set up a router or access point.
Connect to a network
Connect or reconnect to a wireless, wired, dial-up, or VPN network connection.
Choose homegroup and sharing options
Access files and printers located on other network computers, or change sharing settings.
Troubleshoot problems
Diagnose and repair network problems, or get troubleshooting information.
See also
HomeGroup
Internet Options
Windows Firewall

3) Select [Advanced Settings…] from [Advanced] menu.
*If the menu bar is not displayed, press <Alt> key to display it.



4) In [Connections] list and [Bindings for xxx] list ("xxx" represents the connection name), set up to display the connections in descending order from the highest priority at the top. Select the protocols to move upward or downward in the lists and move them using arrow buttons next to the lists.


Advanced Settings
Adapters and Bindings
Provider Order
Connections are listed in the order in which they are accessed by network services.
Connections:
Local Area Connection
Local Area Connection 2
[Remote Access connections]
Bindings for Local Area Connection:
File and Printer Sharing for Microsoft Networks
Internet Protocol Version 4 (TCP/IPv4)
Internet Protocol Version 6 (TCP/IPv6)
Client for Microsoft Networks
Internet Protocol Version 4 (TCP/IPv4)
Internet Protocol Version 6 (TCP/IPv6)
OK
Cancel

5) Click [OK] to close the window.

Cautions concerning LAN connection

Do not switch LAN cables（local network for image transfer and in-hospital network）.

- For the case of mobile PC.
  Refer to the Service Manual as relevant cautions are the same as existing ones.

2.4.2 Service Utility Settings

The setting to display/not to display the dialog during calibration can be switched in the following item.

[Setup Configuration Item] -[SYSTEM CONFIG]-[5. CSL/IDT FUNCTION]

No.	Name	Area(⊙:Default value)	Comment
348	Display Calibration Dialog	0:Yes ⊙1:No	Displaying/Not displaying dialog message during calibration.

2.4.3 User Utility Settings

None

2.5 Effects on the Other Functions

None

2.6 Cautions

As for other limitations, refer to the specifications of MC application.

3 Supporting high sensitivity mode of automatic X-ray detector

3.1 Outline

<Supporting high sensitivity mode>

There was a possibility that DR cassette would fail to detect X-ray when making exposures on patients who have thick body in the case of using automatic X-ray detector function.

To prevent this, the mechanism that the user's operation increases sensitivity temporarily for DR cassette to detect X-ray is incorporated in this version onward. As a result, exposures using automatic X-ray detector function can be made regardless of body thickness because it enables DR cassette to detect X-ray penetrating objects even though the energy of X-ray is faint.

3.2 Option key

None.

3.3 Details

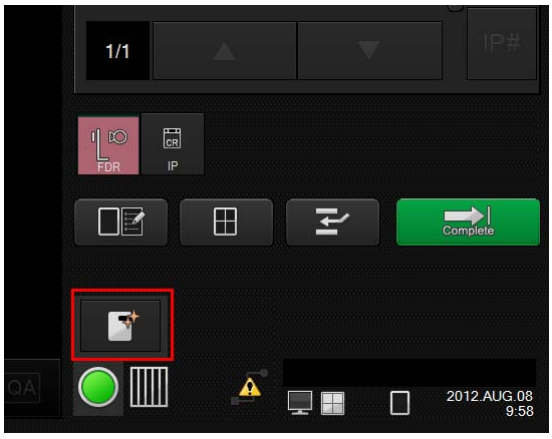
<Precondition for connected DR cassette>

The connected DR cassette supports this function（MC V4.0 or later）.

<Conditions for using the high sensitivity mode>

The high sensitivity button in the figure below appears when all the following five conditions are satisfied. The button does not appear unless all the conditions are met.

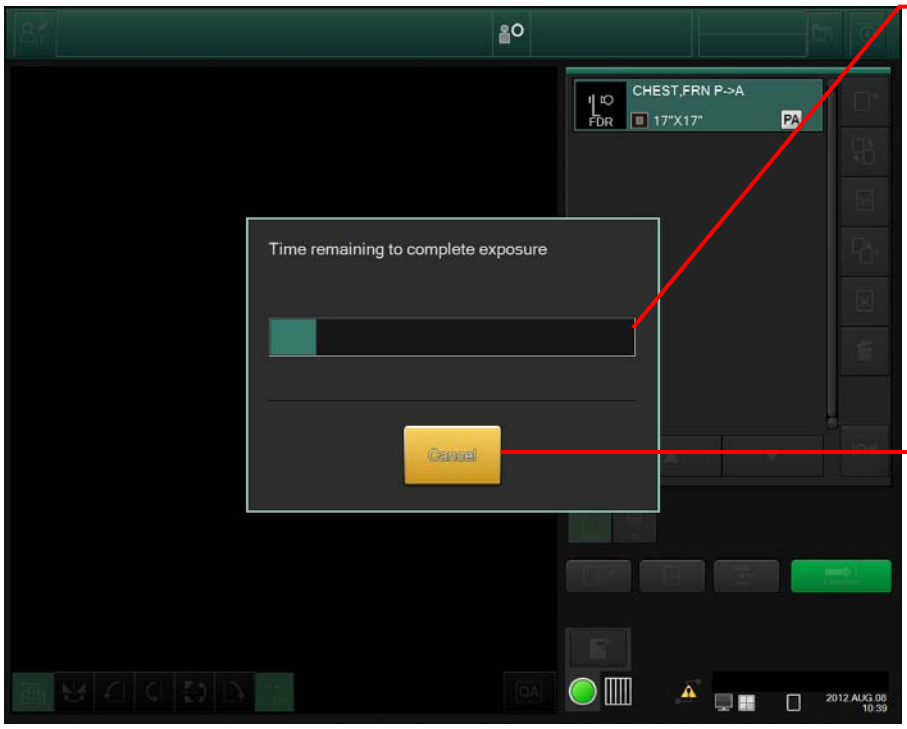
1) [Setup Configuration Item] -[SYSTEM CONFIG]-[5. CSL/IDT FUNCTION]-[item318:Use X-ray Free Operation Mode] is set to [Yes].
2) [Setup Configuration Item] -[SYSTEM CONFIG]-[5. CSL/IDT FUNCTION]-[item352: Use X free High Sensitive Mode](new) is set to [Yes].
3) [Enable X-Free] for DR cassette is set to [Yes] in [Device Setting].
4) The corresponding selector has been selected in the Study execution window and unexposed menu is selected.
5) ShotReady is turned “ON”.



High sensitivity button

<Transition to the high sensitivity mode>

Clicking the high sensitivity button can change the selected DR cassette into the high sensitivity mode.
The following dialog appears to notify that the high sensitivity mode is turned on.



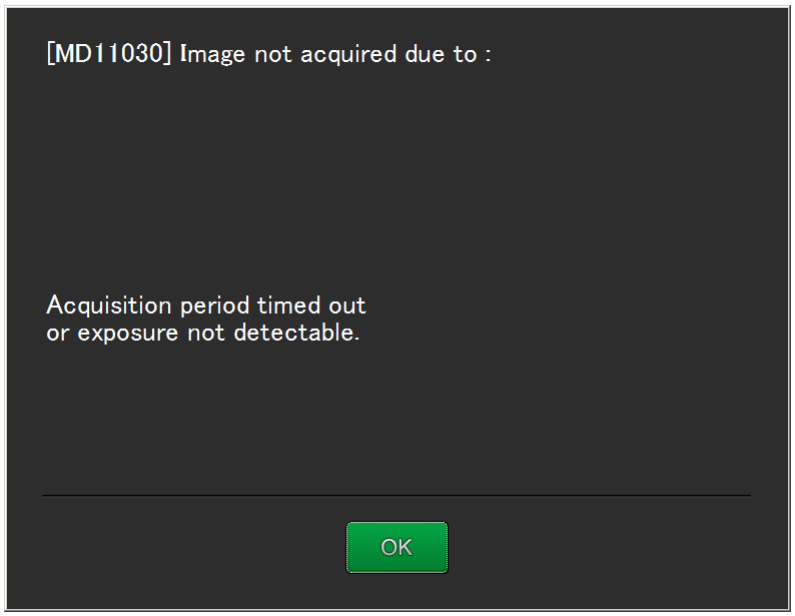
A progress bar appears to show that the high sensitivity mode has been entered. The exposure must be made while the progress bar is indicating the remaining time to complete it.
The time-out value is a service setting. The default value has been set to 30 seconds.

The cancel button that cancels the high sensitivity mode and changes it to the normal mode to return it to QA window.

<Limitation>
*1 Console receives images only from the selected DR cassette while the high sensitivity mode is on (the dialog box is on the screen).

<Behavior in case the high sensitivity mode is timed out>
Console behaves in the following two ways if the high sensitivity mode is over without receiving images from the selected DR cassette.

(1)It receives a blank image according to MPM code(refer to "4. Image acquisition without exposure under the condition where automatic X-ray detector is activated" for details).
(2)A warning message appears without receiving an image.



3.4 Settings

3.4.1 Service Utility Settings

Set up the following items in the Service Utility.

[Setup Configuration Item] -[SYSTEM CONFIG]-［5.CSL/IDT FUNCTION］

No.	Name	Area(⊙:Default value)	Comment
318	Use X-ray Free Operation	⊙No Yes	Enabling/Disabling X-ray Automatic Detection Operation function
352	Use X free High Sensitive Mode	Yes ⊙No	Enabling/Disabling the high sensitivity mode for DR cassette
353	Time-out Value in High Sensitive Mode	⊙30 The value range is 5-60	Time-out value for the high sensitivity mode（sec.）
354	MPM Code for QC Lag Image	⊙091E Multiple values can be input by separating them by commas.	Console receives a blank image after the time for the high sensitivity mode is over in the case of selected MPM code

3.4.2 User Utility Settings

None

3.5 Effects on the other functions

None

3.6 Cautions

・Refer to the Operation Manual of the panel for details of making high sensitivity exposure and cautions.

4 Image acquisition without exposure under the condition where automatic X-ray detector activated

4.1 Outline

<Supporting image acquisition without exposure>
Image acquisition without making exposures is required for measuring erasing performance of image detector (DR cassette, etc.) on general reader unit QC.
On V6.0, image acquisition cannot be initiated unless X-ray is detected under the condition where the automatic X-ray detector is activated.
V7.0 has enabled image acquision without making exposures.

4.2 Option key

None.

4.3 Details

MC transmits an unexposed image to Console automatically in the case of DR cassette and the menu for unexposed QC lag image acquisition（Default:MPM code “091E”）.

<Precondition for connected DR cassette>
The connected DR cassette supports this function（MC V4.0 or later）.

<Conditions for acquiring unexposed images>
The function is enabled in case the following conditions are satisfied.

- Using DR reader unit that supports automatic X-ray detector function.
- Configuration has been set up for enabling high sensitivity mode（refer to “3. Supporting high sensitivity mode of automatic X-ray detector” above for details）
- The menu for unexposed QC lag image acquisition（MPM code “091E”） has been selected [Setup Configuration Item] -[SYSTEM CONFIG]-[5. CSL/IDT FUNCTION]-[item354: MPM Code for QC lag Image](new).

<Procedure for acquiring unexposed images>
The procedure for acquiring unexposed images is as follows.

- Click high sensitivity mode button to display the high sensitivity mode progress bar.
- Leave it unexposed to make it timed out.（Default setting: 30 seconds）
- An unexposed image is acquired.

4.4 Settings

4.4.1 Service Utility Settings

Set up the following items in the Service Utility.

[Setup Configuration Item] -[SYSTEM CONFIG]-［5.CSL/IDT FUNCTION］

No.	Name	Area(⊙:Default value)	Comment
318	Use X-ray Free Operation	⊙No Yes	Enabling/Disabling X-ray Automatic Detection Operation function
352	Use X free High Sensitive Mode	Yes ⊙No	Enabling/Disabling the high sensitivity mode for DR cassette
353	Time-out Value in High Sensitive Mode	⊙30 The value range is 5-60	Time-out value for the high sensitivity mode（sec.）
354	MPM Code for QC Lag Image	⊙091E Multiple values can be input by separating them by commas.	Console receives a blank image after the time for the high sensitivity mode is over in the case of selected MPM code

4.4.2 User Utility Settings

None

4.5 Effects on the other functions

None

4.6 Cautions

None

5 Supporting CR mammography

5.1 Outline

Mammography using CR cassette has become supported from V7.0 onward.
Console Advance supports the following functions.

- Exposure and study menus for mammography and processing parameter presets
- PEM processing
- W gradation parameter
- Registration of implant information
- Registration of View code/View Modifier code
- DICOM MG Storage for Presentation
- Film print for mammography
- XCON connection for mammography (excepting Siemens's XCON for mammography)

* V7.0 does not support the following functions as they will be supported on V7.1.

- Automatic positioning of levels of right and left breasts (Auto positioning)
- Acquisition of exposure records from X-ray exposing controller for mammography (XCON for mammography) (Siemens's XCON for mammography)
- QC of the reader unit for mammography images
- Chest wall paint
- DICOM MGStorage for processing
- Fixed output of Windows level under unnormalized output (Type1output)

5.2 Disabling mammography functions（for the US）

Currently, 510k clearances have not been granted yet in the US. Mammography functions, therefore, has not been supported.
For this reason, disabling mammography functions is required in the US.

■Disabling each item

Do not set up the following configurations concerning mammography functions.

- 5.3. Option key
  →Do not install the option key.
- 5.4.1. Mammography study
  →Do not change it from the default setting.
  *Note, however, that set up the following if the user wishes to use DX Storage for the general studies.
  [1.IMAGE MODALITY]-[54:Modality Setup]: ”0:DX”
  [1.IMAGE MODALITY]-[35:Modality Setup for Mammography Image]: “0：MG”
- 5.4.2. PEM processing
  →Do not change it from the default setting.
- 5.4.3. W gradation parameter
  →Do not change it from the default setting.
- 5.4.4. Registration of implant information
  →Do not change it from the default setting.
- 5.4.5. Registration of View code/View Modifier code
  →Do not change it from the default setting.
- 5.4.6. DICOM MG Storage for Presentation
  →Do not select [MG Image Storage For Presentation]
- 5.4.8. XCON connection for mammography
- →Do not change it from the default setting.
- 5.5.1. Service Utility settings
  →Do not change it from the default setting.
- 5.5.2. Setting up marker BMP for mammography
  →Do not perform the procedure

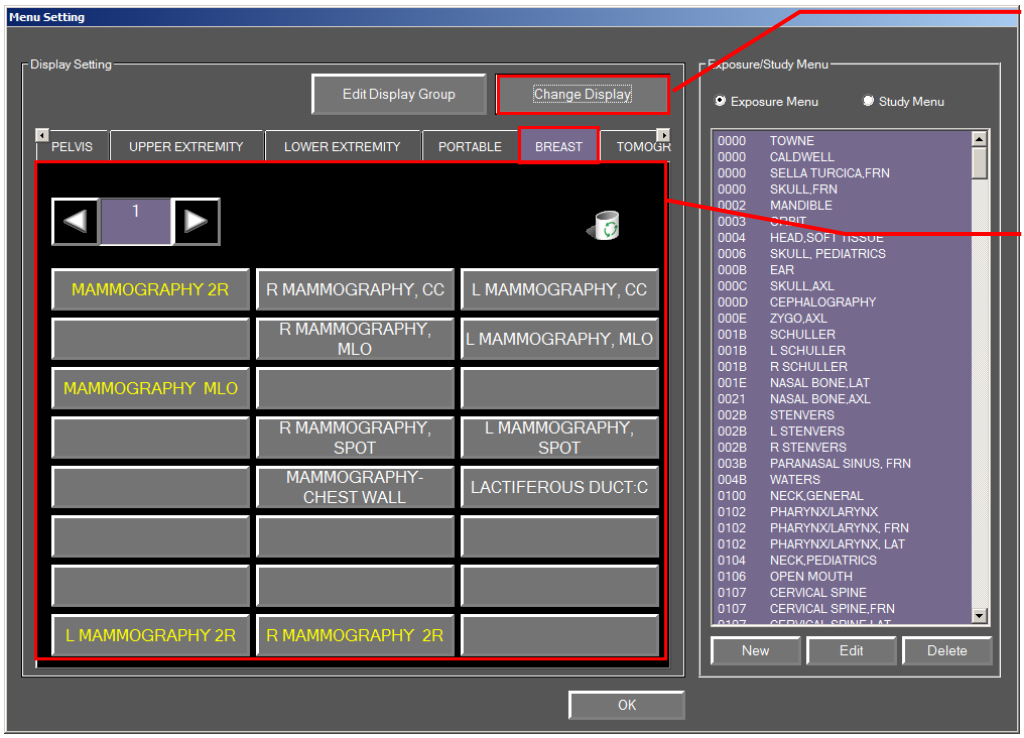
■Disabling mammography menu display in the User Utility

Perform the following procedure to confirm that the Mammography（"BREAST"） menus are not displayed.（"BREAST" menus are not displayed under the normal condition. Change display to hide them if they are displayed.）

*Switching "display" to "nondisplay" in the display group.

[User Utility]→[Menu Setting]→Select "BREAST" display group and click [Change Display] button.

<The window where "BREAST" menus are hidden>



Clicking [Change Display] while selecting "BREAST" switches displayed menus to nondisplay.

Menus are hidden if this portion is blackened.

5.3 Option key

None.

Installation of CR-IR 348CL/DR-ID 300CL PEM Key Software V1.0 (114Y5342306A00) is required to use PEM processing.

5.4 Details

5.4.1 Mammography study

■Enabling the functionality

Set up the following items.

[Setup Configuration Item] -[SYSTEM CONFIG]-[1.IMAGE MODALITY]

No.	Name	Area(⊙:Default value)	Comment
54	Modality Setup	0:DX 1:CR ⊙	Specifying modality for study
35	Modality Setup for Mammography Image	0:MG 2:CR ⊙	Specifying modality for study (exclusively for mammography)

☐Modality for study

Console determines the modality for the study according to setting combinations. The following table describes the combinations.

			MPM code	
	54: Modality Setup	35: Modality Setup for Mammography Image	General study (other than x3xx)	Mammography study (x3xx)
Modality Setup (System setup)	0:DX	0:MG	DX	MG
	0:DX	1:CR	*Prohibited	
	1:CR	0:MG	CR	MG

	1:CR	1:CR	CR	CR

□SOP class of supported DICOM Storage

SOP class of supported DICOM Storage varies according to setting combinations. The following table describes the combinations.

			Supported DICOM Storage SOP Class					
	Modality Setup	Modality Setup for Mammography Image	CR Std	CR Prv	DX Pres	DX Proc	MG Pres	MG Proc
Modality Setup (System setup)	0:DX	0:MG	Operational limitation	Operational limitation	General study	General study	Mammography study	Mammography study [V7.1] ***1**
	0:DX	1:CR	Not supported					
	1:CR	0:MG	General study Mammography study	General study Mammography study	Not supported	Not supported	Mammography study	Mammography study [V7.1] ***2**
	1:CR	1:CR	General study Mammography study	General study Mammography study	Not supported	Not supported	Not supported	Not supported ***3**

*1 Modality “DX” is output for general studies and modality “MG” is output for mammography studies. Converting both studies into modality “CR” for output is an operational limitation.
*2 General studies are converted into modality “CR”, modality “MG” or “CR” for mammography for output.
*3 General studies and mammography studies are output in modality “CR”.

(Operational limitations)
- In the case of MG modality, only the processed mammography images can be selected.
- Unprocessed mammography images can be selected only when specifying Private CR Storage for DICOM Storage SOP Class.

■Cautions
- Do not change the modality setup once operation is initiated（one or more studies are created on Console）.
- Initializing the image DB is required when changing the modality setup and modality setup for mammography.

5.4.2 PEM Processing

■Enable the functionality

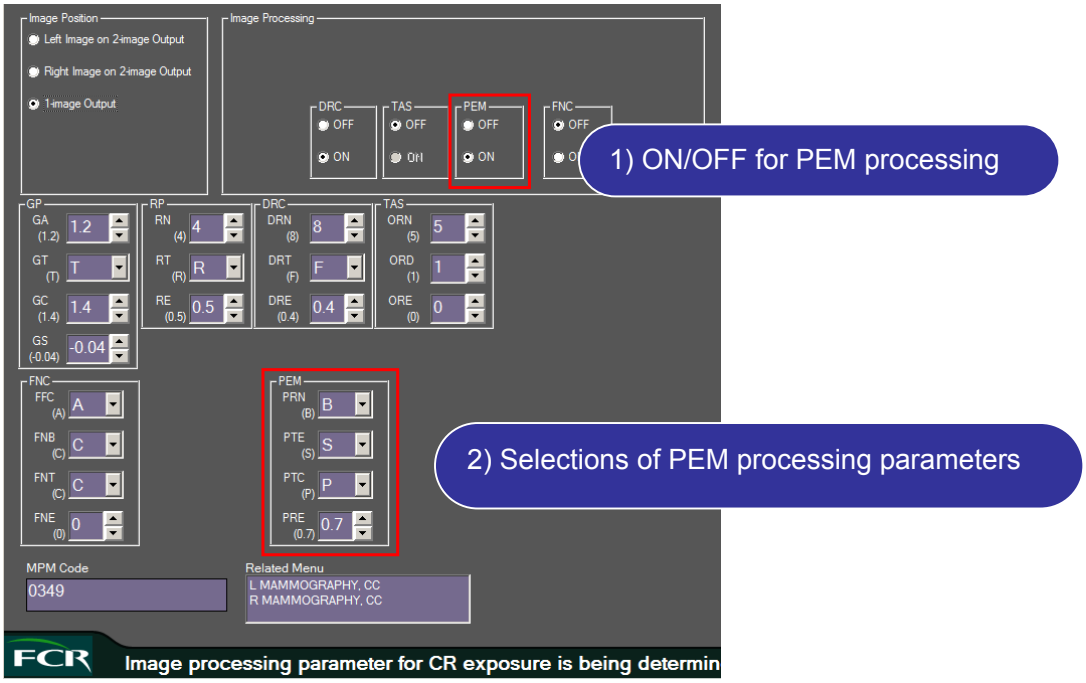
The following system configuration specifies whether Console performs PEM processing on the displayed image on the monitor or not.
Note, however, that it supports 20 lines/mm images only.

[Setup Configuration Item] -[SYSTEM CONFIG] -[3.QA FUNCTION]

No.	Name	Area(⊙:Default value)	Comment
19	Pem Processing in the case of Magnify Display	Yes ⊙ No	Specifying whether or not to perform PEM processing on and ultra-high density image when it is magnified and displayed.（for CR only）

Also, set up "1: Hq Image File” to No.18 “Image File Type For Magnify Display”.

■Cautions
- Do not perform PEM processing on DR images.
  Therefore, PEM parameter cannot be set up for DR（do not display it on the monitor）.
- Fix Single（1 image）for PEM（it applies single PEM parameter to L/R）.
  and 2) in the figure below will be inactivated in the case of L（2 images for left）and R（2 images for right）.



5.4.3 Newly installed menus

The following menus are installed when installing the menu data from the application DVD.

Installation procedure

1) Start up the application DVD
2) Select “3) Install Parameter Files”.
3) Select the language
4) Select “Monitor” or “Film” for Parameter Type.
5) Select “CR” for XCon Parameter Type.

The selections of language and parameter type specify the settings. See the following table.

No	Language	Parameter type	Three menu DBs to be installed (MenuData.mdb /DisplayData.mdb /XConParam.mdb) ・for general studies ・for mammography ・for mammoQC All of the above is installed	Image processing parameters to be installed ・for general studies ・for mammography ・for mammoQC All of the above is installed	Supplemental information of the parameter
1	Japanese	Film	For Japan	For Japan, Film	High luminance (GT=W)
2	Japanese	Monitor	For Japan	For Japan, Monitor	Ordinary luminance (GT=w) *Film condition is converted to lower-case character
3	English (US)	Film	For USA	For USA, Film	FDA-PMA condition (GT=T)
4	English (US)	Monitor	For USA	For USA, Monitor	FDA-PMA condition (GT=t) *Film condition is converted to lower-case character
5	All languages other than Japanese and English (US)	Film	Selected from the other languages	For the other regions, Film	Ordinary luminance (GT=T)
6	All	Monitor	Selected from the other	For the other regions,	Ordinary luminance

	languages other than Japanese and English (US)		languages	Monitor	(GT=t) *Film condition is converted to lower-case character

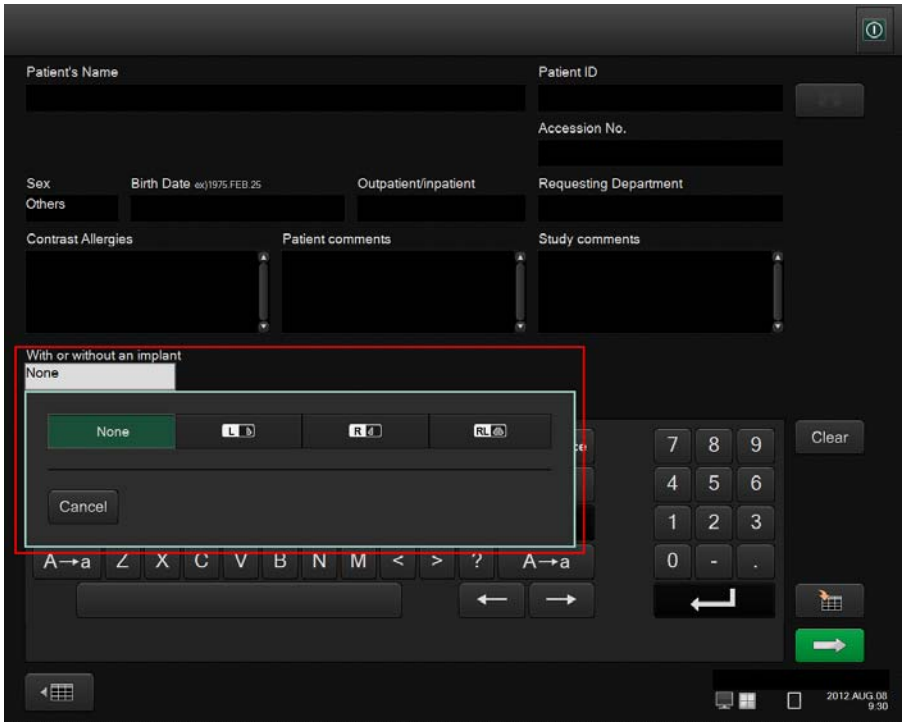
■Limitations

Storage output in Non-normalized cannot be performed if “Film” is selected.

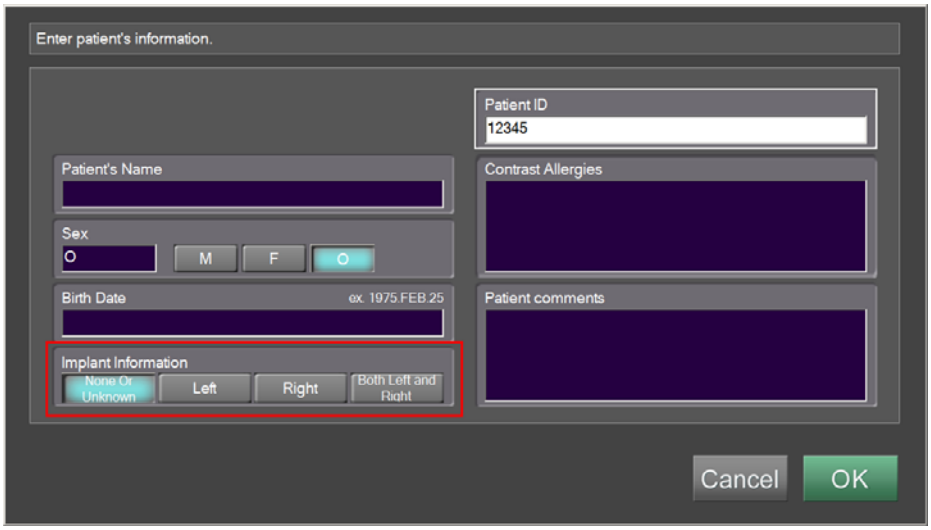
5.4.4 Registration of implant information

■Images of the registration windows

<Registration window>



<User Utility (Patient information maintenance window)>



■Enabling the functionality

Set up the following items to “Yes”.

[Setup Configuration Item] -[SYSTEM CONFIG]-[1.IMAGE MODALITY]

No.	Name	Area(⊙:Default value)	Comment
349	Enable Implant Input	Yes No ⊙	Presence or absence of implant information

■DICOM Tag definition
Implant information is attached to the image in DICOM Storage for output.
・(0028,1300) Whether or not an implant is present.
・(0054,0220)>(0054,0222) View Modifier for Mammography

5.4.5 Registration of View Code/ View Modifier code

The following values have already been registered as default values.
View Code : DICOM PS3.16-2009 CID4014
View Modifier Code : DICOM PS3.16-2009 CID4015

5.4.6 DICOM MG Storage

■Enabling the functionality
Select MG Image Storage For Presentation in the Service Utility.

■Limitation
MGImageStorageForProcessing cannot be selected.

5.4.7 Film print for mammography

■Limitation
Images cannot be output to 10”x12” in film size.

5.4.8 X-CON connection for mammography（Excepting Siemens’s mammography X-CON）

■Configurations
Set up the configuration items according to the following table when establishing the connection to each manufacturer’s mammography X-CON.

[Setup Configuration Item] -[SYSTEM CONFIG]-[5.CSL/IDT FUNCTION]

No	Config Item	Toshiba	Lorad	GE/ Instrumentarium	Planmed	IMS	Siemens V7.1
44	Xcon Serial_TX Control Port	To be set in the range of 1 to 3	To be set in the range of 1 to 3	To be set in the range of 1 to 3	To be set in the range of 1 to 3	To be set in the range of 1 to 3	0
108	Xcon Format Type	4:Mammo1	5:Mammo2	5:Mammo2	5:Mammo2	5:Mammo2	6:Mammo3
109	Xcon Interlock Command Transfer	Yes	No	No	Yes	No	No
111	Xcon Serial_TX Baudrate	2:4800	2:4800	2:4800	2:9600	3:4800	3:9600
112	Xcon No-ResponseTimeout	100	20	20	20	20	20
113	Xcon Data Reception Timeout	100	20	20	20	20	20
117	Xcon DoseValue1	1:Entrance Dose	1:Entrance Dose	1:Entrance Dose	1:Entrance Dose	1:Entrance Dose	1:Entrance Dose
118	Xcon DoseValue2	2:Dose Product	2:Dose Product	2:Dose Product	2:Dose Product	2:Dose Product	2:Dose Product
136	Xcon Serial_TX Control Port2	0	0	0	0	0	1(Seial port

							number)
142	Xcon Serial_TX Parity	2:even	2:even	2:even	2:even	2:even	0:none

*Siemens's X-CON will be supported by V7.1.

■Caution
Mixed connection of general X-ray system and mammography X-ray system is prohibited. Establish the connection to either system.

5.5 Settings

5.5.1 Service Utility Settings

■Set up the following configuration items in the Service Utility to enable the functionalities.

[Setup Configuration Item] -[SYSTEM CONFIG]-[1.IMAGE MODALITY]

No.	Name	Area(⊙:Default value)	Comment
35	Modality Setup for Mammography Image	0:MG 2:CR ⊙	Specifying modality for study (exclusively for mammography)
54	Modality Setup	0:DX 1:CR ⊙	Specifying modality for study
349	Enable Implant Input	Yes No ⊙	Presence or absence of implant information

*Refer to "5.4.1 Mammography study" above for the procedures to set up No.35 "Modality Setup for Mammography Image" and No.54 "Modality Setup".

[Setup Configuration Item] -[SYSTEM CONFIG]-[3.QA FUNCTION]

No.	Name	Area(⊙:Default value)	Comment
19	Pem Processing in the case of Magnify Display	Yes ⊙ No	Specifying whether or not to perform PEM processing on and ultra-high density image when it is magnified and displayed.（for CR only）

[Setup Configuration Item] -[SYSTEM CONFIG]-[4.PRINTER]

No.	Name	Area(⊙:Default value)	Comment
12	Trimming Range for Mammography [mm]	0	Specifying the amount of trimming in mm (for mammography)
27	Print Image Frame (2636 film:18x24,24x30/2025 film:18x24 Single Mammography Format)	Yes ⊙ No	Specifying whether or not to add image frame to 18×24cm or 24×30cm size images that are printed on 26×36cm size film in the single mammography format or to 18×24cm size images that are printed on 8"×10" size film in the single mammography format
28	Print Image Frame (2636film:18x24 2on1 100% Mammography Format)	Yes ⊙ No	Specifying whether or not to add image frame when printing an 18×24cm size image on 26×36cm size film in mammography 2on1 (100%) format
29	No Print Scale (User Definition Rules)	?3??	Specifying whether or not to print the reading scale
57	Gap Between Image Edge and Film Edge (Mammography Format)[x0.1mm]	0 – 50(0⊙)	Gap between image edge and film edge on Mammography Format (Single, 2 on 1) [× 0.1mm]
61	2636 Film Character Field Position & Rotation (Left Image of 2on1 Mammography Format)	0020⊙	Specifying the left-hand image film annotation character field position and rotation for outputting an image produced from the mammography menu (18×24cm image) to 26×36cm film in 2on1 mammography format(100% magnification)
62	2636 Film Character Field Position & Rotation (Right Image	1030⊙	Specifying the right-hand image film annotation character field position and

	of 2on1 Mammography Format)		rotation for outputting an image produced from the mammography menu (18×24cm image) to 26×36cm film in 2on1 mammography format (100% magnification)
74	Film String Format	0:GeneralFormatOnly ⊙ 1:MammographyFormat	Specifying whether to use general-format film annotation characters for all images (as has been previously) or special film annotation characters defined exclusively for mammography images
87	Film Character Mode Setting on XCON Material Info	0：DICOM ⊙ 1：XCON	Specifying film annotation characters of mammography XCON material information. 0:DICOM Conforms to the DICOM definitions (as has been so previously). 1:XCON Conforms to the XCON I/F definitions

[Setup Configuration Item] -[SYSTEM CONFIG]-[5.CSL/IDT FUNCTION]

No.	Name	Area(⊙:Default value)	Comment
42	Wait Time for Performed Exposure Info. From Xcon	0 to 30 (0 ⊙)	Specifying the wait time (in seconds) between the instant at which the ID information acquisition request is received from the built-in type machine and the instant at which the XCON exposure result information is received in situations where exposures are made by the built-in type machine with the XCON connection established
43	Xcon Status Display Strings	XCON ⊙ Use a maximum of five alphanumerics to specify the caption.	Image display caption when the XCON is connected
44	Xcon Serial_TX Control Port	0 to 3 (0 ⊙)	Performing XCON control serial port setup.
45	Xcon Performed Info. Reception	Yes ⊙ No	Specifying whether or not to receive operating condition data.
46	Xcon Exposure Info. Transfer	Yes No ⊙	Specifying whether or not to transfer exposure condition data.
47	Xcon Exposure Info. Limit Value (Minimum KVP [kV])	0 to 9999 (20 ⊙)	Minimum tube voltage.
48	Xcon Exposure Info. Limit Value (Maximum KVP [kV])	0 to 9999 (150 ⊙)	Maximum tube voltage.
49	Xcon Exposure Info. Limit Value (Minimum X-ray Tube Current [mA])	0 to 9999 (9 ⊙)	Minimum tube current.
50	Xcon Exposure Info. Limit Value (Maximum X-ray Tube Current [mA])	0 to 9999 (1250 ⊙)	Maximum tube current.
51	Xcon Exposure Info. Limit Value (Minimum Exposure Time [msec])	0 to 9999 (1 ⊙)	Minimum irradiation time.
52	Xcon Exposure Info. Limit Value (Maximum Exposure Time [msec])	0 to 9999 (5400 ⊙)	Maximum irradiation time.
76	PPS Exposure Status Sequence	0:No ⊙ 1:Status Only 2:Status + Other Results	Specifying whether the PPS should return the exposure status (such as repeat/reject of exposures) with a

			Private tag.
108	Xcon Format Type	0:Old ⊙ 1:Old-Expand 2:Old-Expand2 4:Mammo1 5:Mammo2 6:Mammo3	Specifying the X-CON type.
109	Xcon Interlock Command Transfer	Yes No ⊙	Specifying whether or not to transmit the interlock command.
111	Xcon Serial_TX Baudrate	0:1200 1:2400 2:4800 ⊙ 3:9600	Specifying the X-CON serial transfer rate (unit:bit).
112	Xcon No-ResponseTimeout	0 to 255 (20 ⊙)	Specifying the timeout valuefor response coming from the X-CON (unit:100msec).
113	Xcon Data Reception Timeout	0 to 255 (20 ⊙)	Specifying the timeout value for reception of data coming from the X-CON (unit:100msec).
117	Xcon DoseValue1	0:Average Organ Dose 1:Entrance Dose ⊙ 2:Dose Product	Specifying which of the mammary gland absorption dose, exposure dose and area dose (of the two types of dose values transmitted from the X-CON) is to be assigned to Value1.
118	Xcon DoseValue2	0:Average Organ Dose 1:Entrance Dose 2:Dose Product ⊙	Specifying which of the mammary gland absorption dose, exposure dose and area dose (of the two types of dose values transmitted from the X-CON) is to be assigned to Value2.
120	Xcon No-Data Default Output	0:Output Default Condition 1:Doesn't Output Anything ⊙	Specifying the setting for output of actual result value when it couldn’t be received from the X-CON.
142	Xcon Serial_TX Parity	0:none 1:odd 2:even ⊙	Specifying the X-CON serial transfer parity.
340	Enable Auto Pairing	Yes No ⊙	Specifying whether or not to enable the auto pairing.

5.5.2 Setting up marker BMP for mammography

No change has been made from the existing marker files for general X-ray system.
The number of marker file types for mammography exceeds 85 as default and both for Japanese and for other languages exist. Be sure to select the markers at the time of installation as there are more than 128, which is the limiting value of markers, together with the ones for general X-ray system.

<Types and numbers of marker files>

C:\Program files\FujiFilm\IIP\MarkerBmp

For general X-ray system :*.bmp（84f files）
For mammography（Japanese） :\Japanese\ *.bmp（90 files）
For mammography（other languages） :\Other\ *.bmp（84 files）

5.5.2.1 At the time of new system installation

For the case of newly installed system, prepare the markers to make them to used as default because the marker files for mammography are stored in the following folders.

<The folders in which the marker files for mammography are stored>

C:\Program files\FujiFilm\IIP\MarkerBmp

\Japanese*.bmp
\Other*.bmp

Either Japanese or other languages default contents are identified for set up according to the language setting in OS in the installer. However, there are three types of definitions to connect the automatic marker and exposure menu: for Japanese, for other languages, and for the US.
If it is set to “for the US”, select “[2] English (U.S.)” in the installer menu “[3] Install Parameter Files” to install the definitions of automatic marker file connections for the US. The marker files to be connected at this time are included in the other languages（Marker\Other folder）.

(1) Rename the folder in which the marker files for general X-ray system are stored.
C:\Program files\FujiFilm\IIP**MarkerBmp**
↓↓ Rename the folder
C:\Program files\FujiFilm\IIP**MarkerBmp_bak**

(2) Copy and rename the folder for mammography
C:\Program files\FujiFilm\IIP**MarkerBmp_bak \[Japanese/Other]**
↓↓ Copy the folder according to Japanese/Other environment and rename it.
C:\Program files\FujiFilm\IIP**MarkerBmp**

(3) Perform the display setting.
Execute the following batch file to create RegMarkerBmp.csv file.
[Installer DVD]\tools\CreateMarkerCSV.bat
→RegMarkerBmp.csv file is created (updated).

(4) Change the display order of the marker files.
The marker files are displayed in the order they are written in the following file. Change the order manually if necessary.
C:\Program files\FujiFilm\IIP\MarkerBmp\ RegMarkerBmp.csv

(5) Confirm the automatic marker setting
There are two types of the default settings for automatic marker connection for the case of newly installed system: for Japanese and for other language. The contents are as follows.

<Japanese>

MenuCode	NameSbcs	NameDbcs	BitmapFilePath
FCR0329-0000	L MAMMOGRAPHY,CC	Left breast CC	84_LCC.bmp
FCR0329-0001	R MAMMOGRAPHY,CC	Right breast CC	83_RCC.bmp
FCR0339-0000	L MAMMOGRAPHY,MLO	Left breast MLO	88_LMLO.bmp
FCR0339-0001	R MAMMOGRAPHY,MLO	Right breast MLO	87_RMLO.bmp
FCR0339-0002	L MAMMOGRAPHY,ML	Left breast ML	8C_LML.bmp
FCR0339-0003	R MAMMOGRAPHY,ML	Right breast ML	8B_RML.bmp

<Other language>

MenuCode	NameSbcs	NameDbcs	BitmapFilePath
FCR0308-0000	L MAMMOGRAPHY, CC-US		84_LCC.bmp
FCR0308-0001	R MAMMOGRAPHY, CC-US		83_RCC.bmp
FCR0318-0000	L MAMMOGRAPHY, MLO-US		88_LMLO.bmp
FCR0318-0001	R MAMMOGRAPHY, MLO-US		87_RMLO.bmp
FCR0349-0000	L MAMMOGRAPHY, CC		84_LCC.bmp
FCR0349-0001	R MAMMOGRAPHY, CC		83_RCC.bmp
FCR0359-0000	L MAMMOGRAPHY, MLO		88_LMLO.bmp
FCR0359-0001	R MAMMOGRAPHY, MLO		87_RMLO.bmp
FCR0359-0002	L MAMMOGRAPHY,ML		8C_LML.bmp
FCR0359-0003	R MAMMOGRAPHY,ML		8B_RML.bmp

The definitions of automatic marker file connections for the US will be installed if “[2] English (U.S.)” is selected in the installer menu “[3] Install Parameter Files”

<USA>

MenuCode	NameSbcs	NameDbcs	BitmapFilePath
FCR0308-0000	LCC		84_LCC.bmp
FCR0308-0001	RCC		83_RCC.bmp
FCR0318-0000	LMLO		88_LMLO.bmp
FCR0318-0001	RMLO		87_RMLO.bmp
FCR0328-0000	LML		8C_LML.bmp
FCR0328-0001	RML		8B_RML.bmp

Caution: Automatic marker setting and marker files
The marker files specified as automatic markers are required to be located under the MarkerBmp folder. The study cannot be performed if the specified marker file does not exist in the folder where the exposure menu with automatic marker settings has been selected and image input is being executed in the background.

5.5.2.2 At the time of software version upgrade

In the case of version upgrade, the marker files for mammography are not automatically copied but exist in the installer DVD.

<The storage location of the marker files for mammography>
[Installer DVD]\program files\FujiFilm\IIP\MarkerBmp_**def**
\Japanese*.bmp
\Other*.bmp

(1) Select the bitmap to be used from the bitmap folder for mammography.
[Installer DVD]\program files \FujiFilm\IIP**MarkerBmp_def\[Japanese/Other]\ *.bmp**
↓ ↓ Copy the necessary markers
↓ ↓ *Note that 128 is the maximum number
C:\Program files\FujiFilm\IIP**MarkerBmp\ *.bmp**

<Caution>
Do not delete the automatic markers used for general X-ray system. If they are deleted, image input errors will occur.

(2) Perform the display setting.
Execute the following batch file to create RegMarkerBmp.csv file.
[Installer DVD]\tools\CreateMarkerCSV.bat
→RegMarkerBmp.csv file is created (updated).

(3) Change the display order of the marker files.
The marker files are displayed in the order they are written in the following file. Change the order manually if necessary.
C:\Program files\FujiFilm\IIP\MarkerBmp\ RegMarkerBmp.csv

(4) Set up automatic markers.
In the case of version upgrade, the previous automatic marker settings will be migrated. Set up the automatic markers for mammography if necessary.

5.5.3 User Utility Settings

None

5.6 Effects on the other functions

■Limitations on connection to other equipments
Console Advance cannot be connected to the following equipments.
・DR mammography systems（FDR MS-1000、FDR MS-2000、FDR MS-2500）
・CR-IR 347（Model name:FCR 5000MA）

5.7 Cautions

■Importing data from media

- ・CR Console, CR AWS, and DR AWS cannot import the data in the Fuji local format that is in the media created with Console Advance.
- ・DX Console cannot import the data in the media created with DR AWS.
- ・Import data only between the Consoles on which the same version is running.
- ・Data cannot be imported if the modality settings (mammography) in Console and of the data are inconsistent. It turns to an error even the media list indicates the media.

6 Improvement in operatability of tomosynthesis

6.1 Outline

V7.0 improves the following operatabilities in tomosynthesis view.

- Image display speed : supporting reduced images in 1/2 size to speed up tiling and stack-forwarding display.
- Reconstruction condition setup: Changes have been made in the contents of settings and display in an easy-to-understand manner.

6.2 Option key

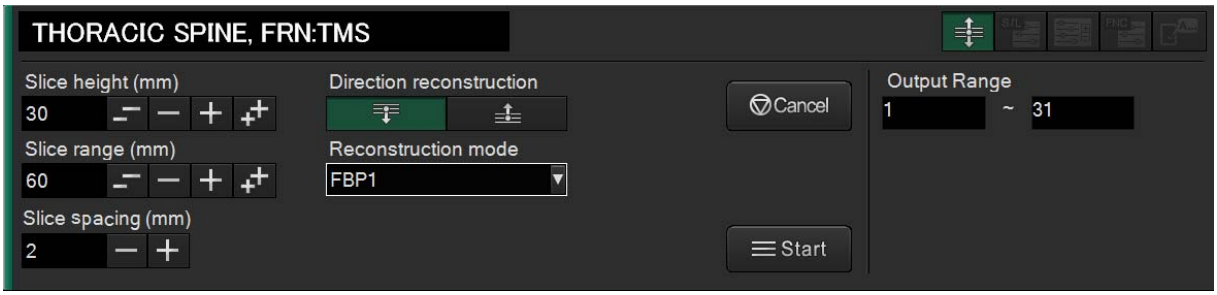
Installation of DR-ID 300CL Tomosynthesis Key Software (114Y2150201B00) is required.

6.3 Details

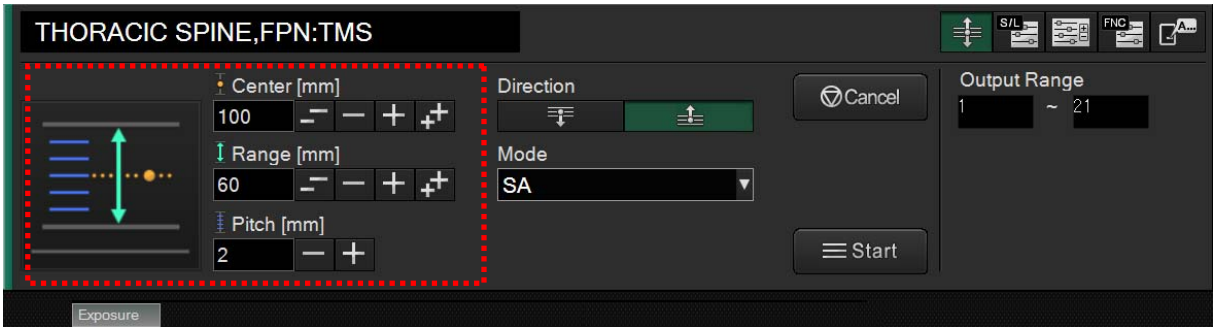
☐Tomosynthesis view : Reconstruction condition setup

The labeling of items has been revised and icons for each item and the indicator of image reconstruction condition have been added.

（V6.2）

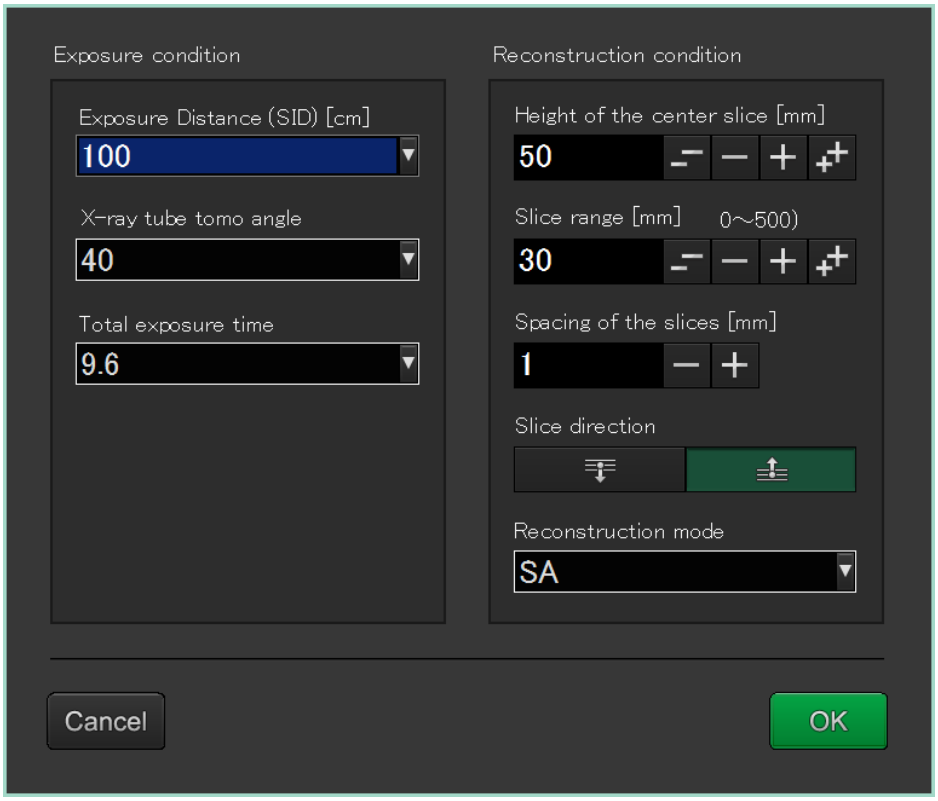


（V7.0）

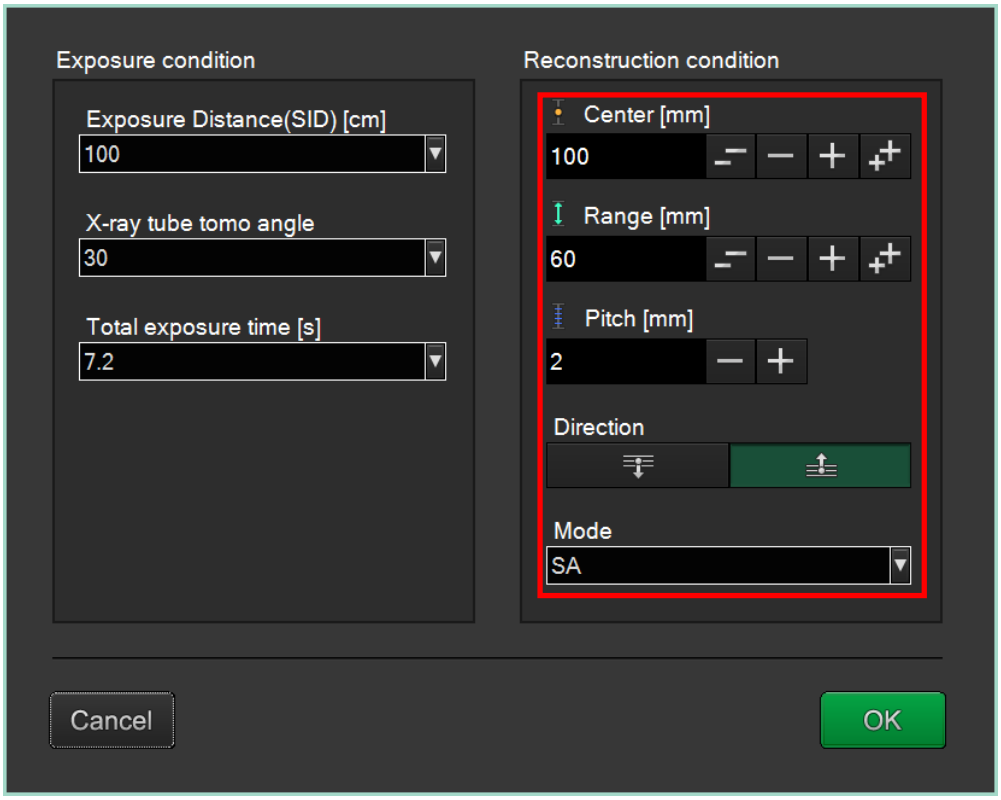


□Exposure condition setting dialog for tomosynthesis.
The labeling of items has been revised and icons for each item have been added.

(V6.2)



(V7.0)



6.4 Settings

6.4.1 Service Utility Settings

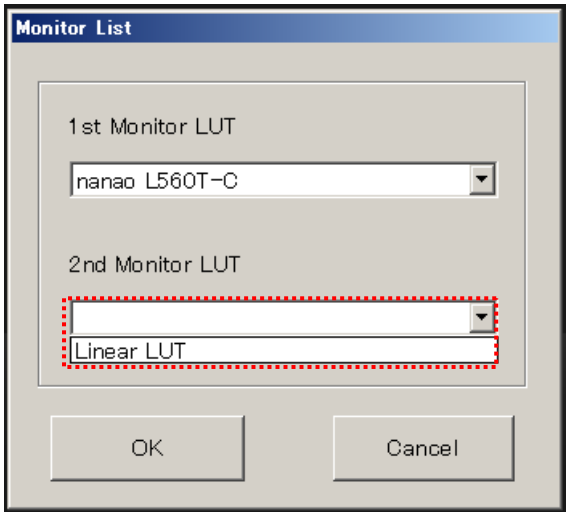
Set up the following items in the Service Utility.

[Setup Configuration Item]-[SYSTEM CONFIG]-[1. IMAGE MODALITY]

No.	Name	Area(⊙:Default value)	Comment
342	Image File Type For Tomosynthesis Viewer	⊙0:THM 1:STD	Types of image to display on the tomosysthesis viewer. 0: image reduced 1/2 in size 1: image with standard density
350	Display Pixel Size for 2nd monitor	1_(⊙264)	Display pixel size [*0.001mm] of the 2nd monitor

Set up the LUT for the 2nd monitor in the Service Utility.

[Setup Configuration Item]-[LUT]-[2nd Monitor LUT]



Select the model of the monitor used for the 2nd monitor.

6.4.2 User Utility Settings

None

6.5 Effects on the other functions

None

6.6 Cautions

Concerning the configurations for setting up the 2nd monitor,

- Set up the tomosynthesis function on Console.
- Set up the precise enlargement function on the linked application.

7 Enabling GA/GS adjustment using mouse

7.1 Outline

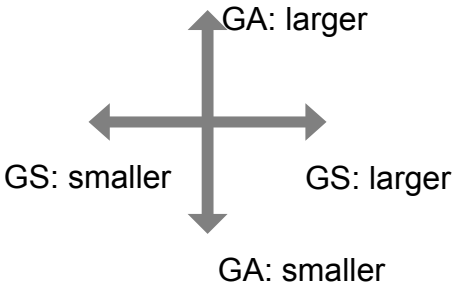
Like CR Console and Console Advance V4.0 or earlier, V7.0 enables GA/GS adjustment using mouse drag on the QA window.

7.2 Option key

None.

7.3 Details

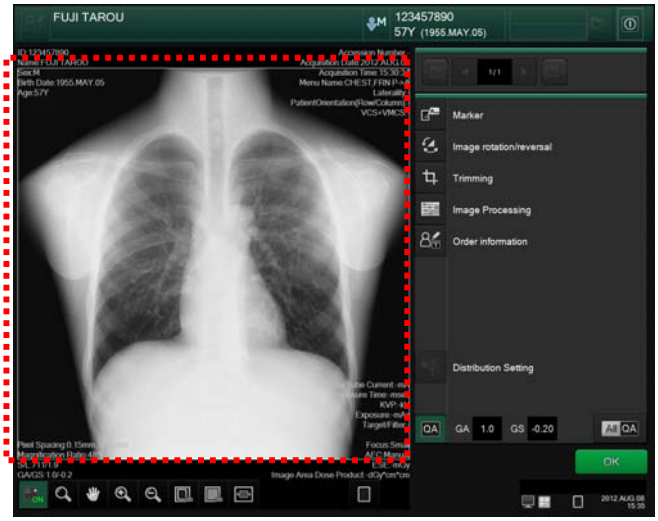
Dragging mouse changes GA/GS values applied to the image displayed on the QA main window. The values will be changed and the image displayed will be updated according to the directions of the dragged mouse as follows (same as V4).
Both GA and GS values can be changed simultaneously to the amount of dragged distance when dragging the mouse obliquely.
Note, however, that the values remain the same even though the mouse is moved when the values of GA/GS have already reached their maximum.



-Dragging upward/downward: GA (upward: larger←→downward: smaller)

-Dragging left/right: GS (left: smaller ←→ right: larger)

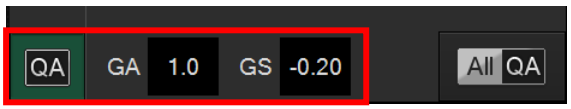
This function is enabled in response to mousedown in the image display field (in the red dotted frame in the following figure.



*The values can be changed while mousedown operation is continued even when the cursor runs off the edge of image display field.

【The setting disabled】

【The setting enabled】
GA/GS values are displayed below the QA function buttons.



7.4 Settings

7.4.1 Service Utility Settings

Set up the following in the Service Utility.
[Setup Configuration Item] -[SYSTEM CONFIG]-[3. QA FUNCTION]

No.	Name	Area(⊙:Default value)	Comment
22	Enable Adjust GA/GS by dragging	No ⊙Yes	Enabling/Disabling GA/GS adjustment by dragging mouse
23	ResponceGA	0-99 (⊙18)	Making smaller GA sensitivity value more sensitive when performing GA/GS adjustment by dragging mouse
24	ResponceGS	0-99 (⊙18)	Making smaller GS sensitivity value more sensitive when performing GA/GS adjustment by dragging mouse

7.4.2 User Utility Settings

None

7.5 Effects on the other functions

None

7.6 Cautions

None

8 Improvement in QA termination button

8.1 Outline

The design of the QA completed button (which closes QA window) has been modified to differentiate it from QA determined button.

8.2 Option key

None.

8.3 Details

The following button has been changed.

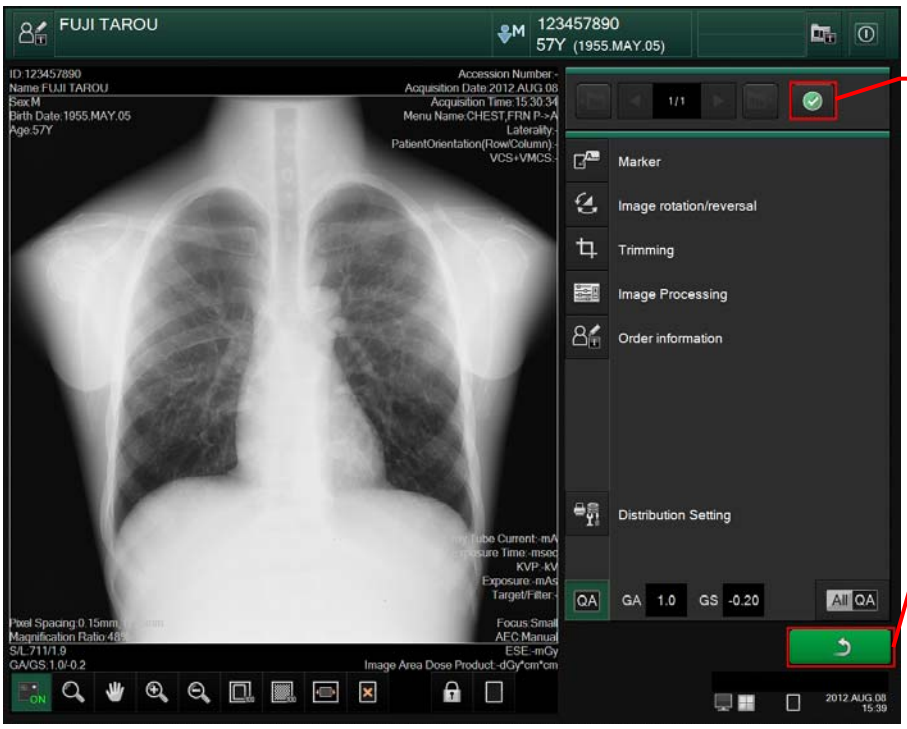
- QA completed button on the study list (which closes the window to return to the study list window
  →*To distinguish it from QA determined button, the design has been changes to represent closing QA window to return to the study list.

V7.0	V6.2 or earlier

There is no change in the following buttons.

- ・QA completed button on studies (which closes the window to return to the study window)
- ・QA determined button on QA window of the study list.

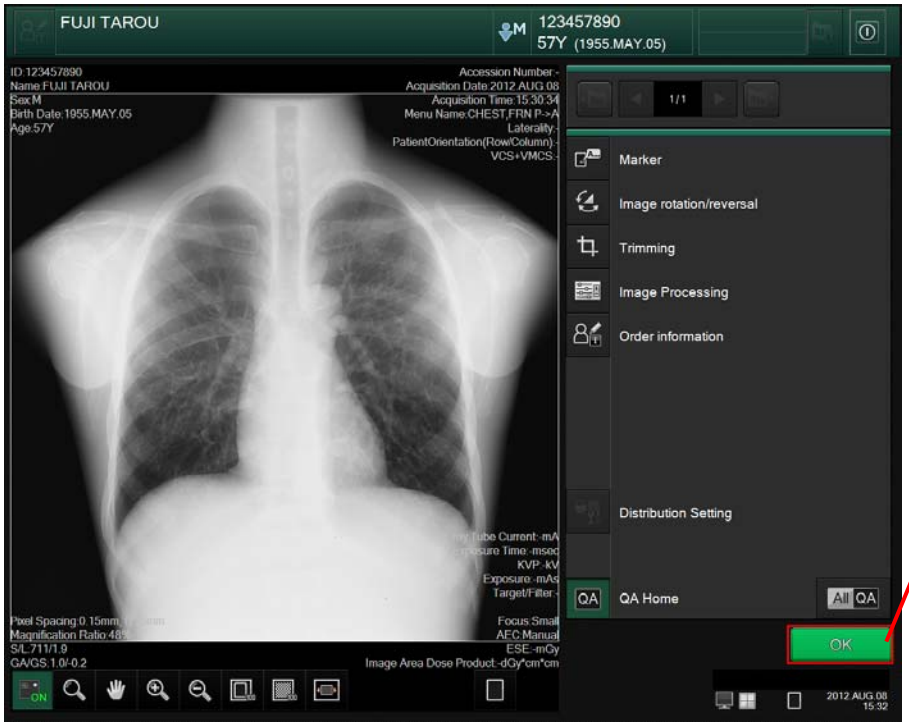
<QA completed button on the study list (Which closes the window to return to the study list)>



No change in QA determined button.

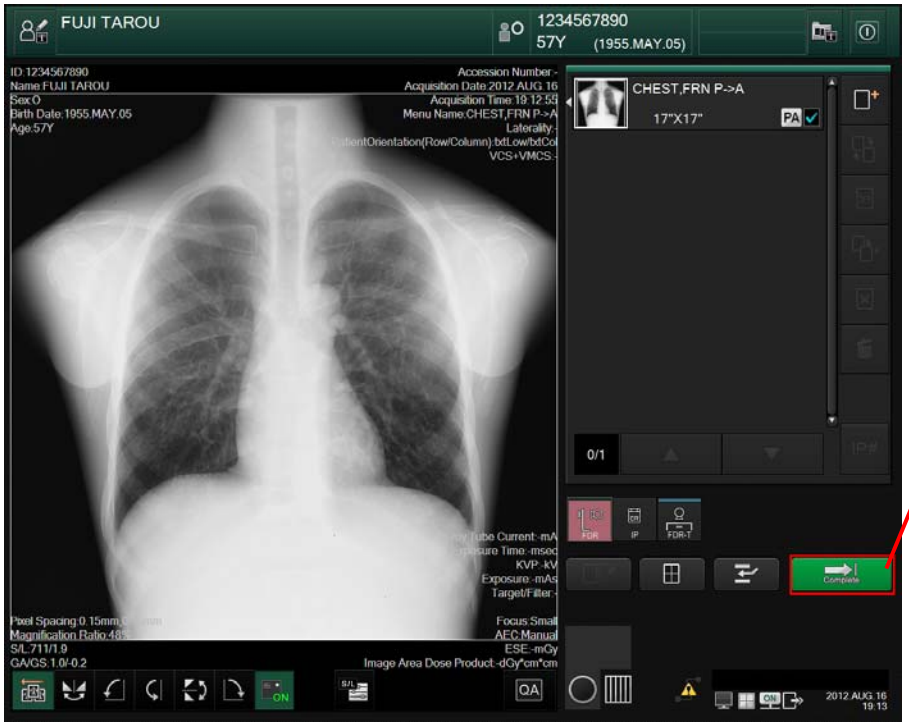
This button has been changed on V7.0.
The window returns to the study list.
It is not the QA determined button.

< QA completed button on studies (which closes the window to return to the study window)>



No change in QA completed button on studies.

< Study completed button on studies (which finishes studies)>



No change in Study completed button on studies.

8.4 Settings

8.4.1 Service Utility Settings

None

8.4.2 User Utility Settings

None

8.5 Effects on the other functions

None

8.6 Cautions

None

9 Storing worklist when retrieving MWM fails

9.1 Outline

The worklist was cleared if the query failed when executing a query for the order to RIS (C-FIND-RQ). V7.0, however, has enabled Console to retain the worklist before query without clearing it.
This modification improves the operatability on the RIS tab.
Note, however, that there is a risk of differences in the order information retrieved from the successful query and failed query to RIS under the condition where the clustering is being performed. Careful attention is necessary when operating it under the clustering condition（Confirmation of order information is required）.

9.2 Option key

None.
Note, however, that DICOM MWM option key software is required to be installed as a precondition for operating worklist.

9.3 Details

Show the message to notify the user if a query to RIS fails. The probable causes of failure are as follows.

- ・The network connecting to RIS has not been established.
- ・The connection to RIS cannot be established, the negotiation with RIS has been aborted.
- ・Anomalous values have been retrieved from RIS as a result of a query (C-FIND-RSP).

9.4 Settings

9.4.1 Service Utility Settings

No change.

9.4.2 User Utility Settings

None

9.5 Effects on the Other Functions

None

9.6 Cautions

The worklist will be cleared if none of the order is retrieved even when a query to RIS is successful.

10 Revised default setting for exposure condition (XconParam.mdb)

10.1 Outline

On V7.0, the default value for XconParam.mdb has been changed to the one used in CR Console.
Note, however, that the values used exclusively for DR exposures (tomosynthesis, energy subtraction) has not been changed from V6.2.

10.2 Setup procedure

The following procedure can replace the value for XconParam.mdb.
Caution: Because all the menu data is initialized, the customized data will be deleted.

1) Insert the installer media into DVD drive.
2) Select “”3” Install Parameter Files (Menu DB, Image Processing Parameter, etc.)” in the installation menu.
3) Select the language.
4) Select monitor/film.
5) The following menu will appear. Be sure to select “1)for CR” .

```
--------------------------------------------------------------------------
Select Xcon Parameter Type
  0)Cancel
  1)for CR
  2)for GOS
  3)for aSe
  4)for CsI
--------------------------------------------------------------------------
```

6) The selected suite of menu DB and parameter files will be installed.

10.3 Cautions

- Do not select the options for GOS/a-Se/CsI in the installation menu. Use of the parameter types for GOS/a-Se/CsI other than “CR” is not guaranteed as the values are only for the purpose of research and development.

10.4 Information

- The default parameter of XconParam.mdb installed when “2)Install DR Console Application” is selected in the installer menu of the Console application is the same as the parameter of XconParam.mdb that is installed when “CR” is selected in step 5) above.
  Therefore, the XconParam.mdb for “CR” is installed as the default parameter at the time of shipment.

- The values that have been set up in the previous version will be migrated when upgrading Console application software.

11 Supporting PROFECT P connection

11.1 Outline

V7.0 onward supports the connection to FCR image reader unit “FCR PROFECT-P”（3 models） to retrieve the images taken with CR cassettes.

・CR-IR 362 (model name: Speedia CS Plus(Japan), XG5000 Plus)
・CR-IR 363 (model name: PROFECT CS Plus, ClearView CS Plus(for US))
・CR-IR 368 (model name: FCR PROFECT ONE Plus, ClearView 1 Plus(for US))

Although PROFECT-P does not support cassette reading of pantomography size (15cm×30cm), imaging can be performed in 10”x12” size when reading images by inserting pantomography IPs into ”15x30 IP adapter” (*1) to be read as 14”x17” size and by trimming them to 10”x12” in size on Console Advance.
The details of the procedure are as follows.

*1: Inserting the pantomography IP to it makes the IP readable as 14”x17” cassette.

（Procedure）

1. Make an exposure with a FCR cassette in the pantomography size.
2. Remove the IP from the cassette used in step 1 above.
3. Insert the IP removed in step 2 above into the 15x30 IP adapter.
4. Read the 15x30 IP adapter with PROFECT-P reader unit.
   Retrieve the image in “14x17” size.
   Console Advance receives 14”x17” image from PROFECT-P.
5. Perform trimming if necessary.
   Trimming to the pantomography size is not supported. Perform trimming to 10”x12” sized image instead.
   Automatic trimming when receiving images and manual trimming on QA window will be performed.

11.2 Option key

None.

11.3 Details

None

11.4 Settings

11.4.1 Service Utility Settings

No change.

11.4.2 User Utility Settings

None

11.5 Effects on the other functions

None

11.6 Cautions

None

DR-ID 300CL V7.0 ECN_Appendix-B
Extended parameter convert tool

1. Outline

1.1 Contents

In response to supporting tomosynthesis and mammography, some menus have been added and image processing parameters have been changed. Also, V7.0 includes the image processing parameter that is exclusively for monitor and for the users who have been using full-range processing since V5.0 and monitor diagnosis.

Because the installer does not add the menus nor change the image processing parameters described above, it is require for service personnel to add the menus by using the MenuImportExportTool and modify the image processing parameters manually. It is expected that the word takes time and labor to complete them.

This tool supports the following operations when upgrading the application software from the old edition to V7.0 or later.

- Addition of menus for tomosinthesys/mammography and modification of the image processing parameters according to the additional menus.
- Converting image processing parameters from film to monitor.

This tool can be used when upgrading application software version or performing system transition.
This tool can be used exclusively by service personnel. Do not allow users to use this tool.

Applicable version: V7.0 or later
Note that there are limitations according to the original versions/Console.

	Addition of tomosynthesis	Addition of mammography	Conversion from film to monitor
System transition from CR Console V8.x	Not applicable (*)	Not applicable (*)	Applicable
Version upgrade from Console Advance V5.0 to V6.2	Applicable Exposure menu, image processing parameter information	Applicable Exposure menu, image processing parameter information	Applicable

* The menus and image processing parameters used in the existing CR Console will be lost.

1.2 Requirements (System requirements)

The system requirements for this tool are as follows.

・OS Microsoft Windows VISTA Business SP1or SP2
Microsoft Windows 7 Professional or SP1

・Console

1) The Console that has been upgraded from CR-IR 348CL V8.0（including HF）/CR-IR 348CL V8.1（including HF）/CR-IR 348CL V8.2（including HF）/CR-IR 348CL V8.3（including HF） to DR-ID300CL V7.0 or later.
2) DR-ID300CL that has been upgraded from V5.0(including HF)/ V6.0(including HF)/ V6.1(including HF)/V6.2(including HF) to V7.0 or later.

2. Setup procedure

This tool does not require any setup such as installation.
Double-clicking the following file, which is stored in the installer media for V7.0 onward, starts up the tool. Refer to “3. Operational procedure” and confirm the contents before using the tool.
(root)\tools\ ExtendedParamConvertTool\ ExtendedParamConvertTool.bat

3. Operational procedure

3.1 Preparation

Perform the following before starting up the tool.

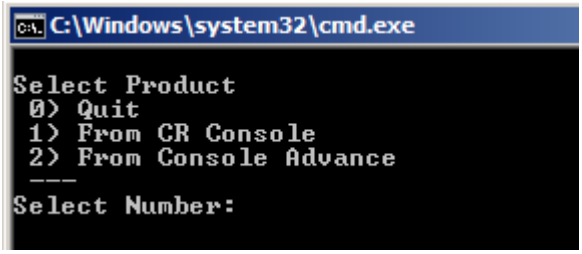
1. Upgrade the application software to V7.0 or later.
2. Terminate the Console Application（including the Service Utility and User Utility）if it's running.
3. Terminate this tool if it's running.
4. In the case of adding tomosynthesis menus and mammography menus, make sure if tomography menus and mammography menus exist in the upgraded Console. If exist, delete them using MenuImportExportTool.
   *Refer to the additional menu list for menu codes to perform the operation.
5. Ensure that the language setting has been set up appropriately.
   (This tool refers to the language setting to add the menu in the proper language while being executed.)

(Caution) This tool may not run properly if the preparation above has not been performed.

3.2 Activation of the tool

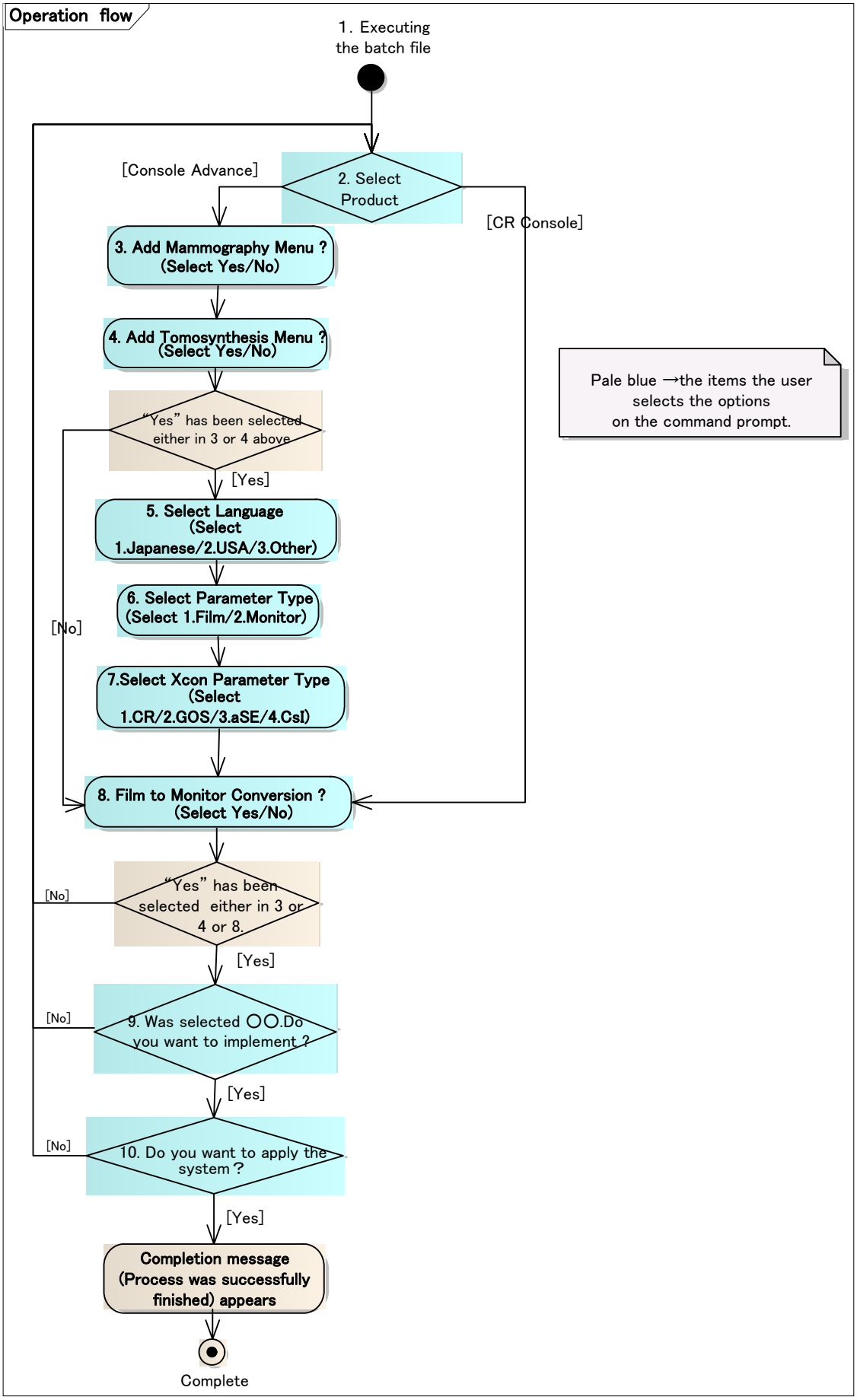
Insert the installer media for V7.0 or later into Console Advance that has been upgraded to V7.0 or later and double-click the following file.
(root)\tools\ ExtendedParamConvertTool\ ExtendedParamConvertTool.bat

The following window starts up.



3.3 Operational procedure

The operational flow is as follows.


Operation flow
1. Executing the batch file
2. Select Product
[Console Advance]
[CR Console]
3. Add Mammography Menu ? (Select Yes/No)
4. Add Tomosynthesis Menu ? (Select Yes/No)
"Yes" has been selected either in 3 or 4 above
[Yes]
[No]
5. Select Language (Select 1.Japanese/2.USA/3.Other)
6. Select Parameter Type (Select 1.Film/2.Monitor)
7.Select Xcon Parameter Type (Select 1.CR/2.GOS/3.aSE/4.CsI)
8. Film to Monitor Conversion ? (Select Yes/No)
"Yes" has been selected either in 3 or 4 or 8.
9. Was selected OO.Do you want to implement ?
10. Do you want to apply the system ?
Completion message (Process was successfully finished) appears
Complete
Pale blue →the items the user selects the options on the command prompt.

＜Operational procedure＞

1. Start up the tool.
2. “Select Product”: Select the type of previous Console prior to the upgrade.
   CR Console: Enter “1”.
   →Skip to step 8 to confirm the image processing parameter for converting film to monitor.
   Console Advance: Enter “2”.
   Terminating the tool: Enter “0”.
3. “Add Mammography Menu ?”: Add mammography menu.
   Adding the menu: Enter “y”.
   Not adding the menu: Enter “n”.
4. “Add Tomosynthesis Menu ?”: Add tomosynthesis menu.
   Adding the menu: Enter “y”.
   Not adding the menu: Enter “n”.
5. “Select Language”: Select the language (displayed only when menus are added in step 3 or 4)
   Japanese: Enter “1”.
   English (U.S.): Enter “2”.
   Other than above (including English excepting U.S.): Enter “3”.
6. “Select Parameter Type”: Select the parameter type for image processing (for film or for monitor) (displayed only when menus are added in step 3 or 4)
   For film: Enter “1”.
   For monitor: Enter “2”.
7. “Select Xcon Parameter Type”: Select XconParam.mdb according to XCON parameter type (displayed only when menus are added in step 3 or 4) *Be sure to select “1” for CR even though the options are displayed.
   For CR: Enter “1”.
   For GOS: Enter “2”.
   For aSe: Enter “3”.
   For CsI: Enter “4”.

   !!Caution!!
   Do not select “2” for GOS/”3” for a-Se/”4” for CsI even though they are displayed.
   The values of exposure conditions are not guaranteed when GOS/a-Se/CsI is selected other then CR.

8. “Film to Monitor Conversion?”: Confirm the change of film→monitor conversion image processing parameter.
   Execute it: Enter “y”.
   Do not execute it: Enter “n”.
9. “Do you want to implement?”: Confirm execution of convert processing.
   Execute it: Enter “y”.
   Do not execute it: Enter “n”.
   →Entering “n” returns to step 2 above.
10. “Do you want to apply the system?”: Confirm application of the converted data to Console.
    Apply it: Enter “y”.
    Do not apply it:: Enter “n”.
    →Entering “n” returns to step 2 above.

Refer to “Error handling” for the procedures if errors occur while performing the steps above.

4. Automatic data backup before and after conversion and application of converted data to Console

4.1 Automatic data backup of setup files

In the case of selecting “y” in response to "Do you want to implement?” prompt in step 9 to confirm execution of convert processing, which is described in “3.3 Operational procedure” above,

1. Create backup data of Console in “\BackupData\Before_Conversion\IIP” on the desktop.
   Attention is required when restoring the backup data as there are only following two folders stored in the folder above.
   1) Create backup of “C:\Program Files\FujiFilm\IIP\ImageProcessing” in “BackupData\Before_Conversion\IIP\ImageProcessing”
   2) Create backup of “C:\Program Files\FujiFilm\IIP\Param” in “BackupData\Before_Conversion\IIP\Param”.
2. Save the data converted after selecting options in step 2 to 7 in “BackupData\After_Conversion” on the desktop temporarily.

4.2 Application of converted data to Console

In the case of selecting “y” in response to "Do you want to apply the system?” prompt in step 10 to confirm application of converted data to Console, which is described in “3.3 Operational procedure” above, apply (copy) the converted data created in step 9 to the folder in Console.
Refer to “5. Applicable files” for the files to apply the converted data to.

Refer to the additional menu list for the menus added as a consequence of additional mammography and tomography menus.

5. Applicable files

The following files will be converted using this tool.

No	Folder path	File name	Type	Function
1	C:\Program Files\FujiFilm\IIP\Param	MenuData.mdb	Menu data DB	
2		XconParam.mdb	Xcon parameter DB	
3	C:\Program Files\FujiFilm\IIP\ImageProcessing\ImageProc\Type\Builtin	irmprm.prm	EDR parameter	
4		mpmprm.prm	EDR parameter	
5	C:\Program Files\FujiFilm\IIP\ImageProcessing\ImageProc\Type\Cassette	irmprm.prm	EDR parameter	
6		mpmprm.prm	EDR parameter	
7	C:\Program Files\FujiFilm\IIP\ImageProcessing\ImageProc\System\CR\Default	FNCd.prm	Image processing parameter	
8		Gd.prm	Image processing parameter	
9		MFPd.prm	Image processing parameter	
10		Stdd.prm	Image processing parameter	
11	C:\Program Files\FujiFilm\IIP\ImageProcessing\ImageProc\System\DR\Default	FNCd.prm	Image processing parameter	・Adding mammography menu ・Adding tomosynthesis menu
12		Gd.prm	Image processing parameter	
13		MFPd.prm	Image processing parameter	
14		Stdd.prm	Image processing parameter	
15		SHARPd.prm	Image processing parameter	
16		ESd.prm	Image processing parameter	
17	C:\Program Files\FujiFilm\IIP\ImageProcessing\ImageProc\System\DR\InDirFPD\GOS	Select.prm	Image processing parameter	
18	C:\Program Files\FujiFilm\IIP\ImageProcessing\ImageProc\System\DR\InDirFPD\CsI	Select.prm	Image processing parameter	
19	C:\Program Files\FujiFilm\IIP\ImageProcessing\ImageProc\System\DR\DirFPD\a-Se	Select.prm	Image processing parameter	
20	C:\Program Files\FujiFilm\IIP\ImageProcessing\ImageProc\System\CR\Default\User	Gdu.prm	Image processing parameter	Film→monitor conversion
21	C:\Program Files\FujiFilm\IIP\ImageProcessing\ImageProc\System\DR\Default\User	Gdu.prm	Image processing parameter	Film→monitor conversion

6. Handling errors

Windows error messages appear when the tool malfunctions. Correct errors as the messages indicate.
Note, however, that the error messages in the following table appear when errors occur while adding menus to MenuData.mdb/XconParam.mdb. The error messages and procedures for correcting them are as follows.

Correct the errors according to the Windows message or the procedures described in the table below when errors occur during step 1 to 9 in “3.3 Operational procedure” above. Then restart the tool and perform the

steps from the beginning.
In the case of errors occur in step 10 in “3.3 Operational procedure”, overwrite ImageProcessing folder with "C:\Program Files\FujiFilm\IIP\ImageProcessing” and Param folder with "C:\Program Files\FujiFilm\IIP\Param”. Both ImageProcessing folder and Param folder are stored in "BackupData\Before_Conversion\IIP” on the desktop. Then perform error correction according to Windows message and restart the tool to perform the steps from the beginning.

Table: List of error messages appear while adding menus to DB and how to correct them

No	Message	Procedure for error correction
1	Failed Get Language.	Terminate Service Utility or Console if they are running. Close SysConfig.mdb if it is open. If the case is other than above, restart the PC.
2	SysConfig.mdb is Not Found.	Terminate Service Utility or Console if they are running. Close SysConfig.mdb if it is open. If the case is other than above, restart the PC. If the error occurs even after the PC is restarted, application software upgrade to V7.0 or later may have been failed. Confirm if the upgrade has been completed properly.
3	MenuData.mdb is Not Found.	Terminate Service Utility, User Utility or Console if they are running. Close MenuData.mdb if it is open. If the case is other than above, restart the PC. If the error occurs even after the PC is restarted, application software upgrade to V7.0 or later may have been failed. Confirm if the upgrade has been completed properly.
4	XconParam.mdb is Not Found.	Terminate Service Utility, User Utility or Console if they are running. Close XconParam.mdb if it is open. If the case is other than above, restart the PC. If the error occurs even after the PC is restarted, application software upgrade to V7.0 or later may have been failed. Confirm if the upgrade has been completed properly.
5	Overlapped ExaminationMenuCode: ****	The same study menu code (****) exists. Change the study code (****) in the User Utility. (Refer to additional menu list for additional menus)
6	Overlapped ExposureMenuCode: ****	The same exposure menu code (****) exists. Change the exposure menu code (****) in the User Utility. (Refer to additional menu list for additional menus)
7	Failed MammographyMenu Convert.	Correct the error according to corresponding error correction procedure from No.1 to 6 above if this message appears after either error message above (from No.1 to 6) appeared. If the case is other than above, restart the PC. If the error occurs even after the PC is restarted, application software upgrade to V7.0 or later may have been failed. Confirm if the upgrade has been completed properly.
8	Failed TomosynthesisMenu Convert.	Correct the error according to corresponding error correction procedure from No.1 to 6 above if this message appears after either error message above (from No.1 to 6) appeared. If the case is other than above, restart the PC. If the error occurs even after the PC is restarted, application software upgrade to V7.0 or later may have been failed. Confirm if the upgrade has been completed properly.

7. Additional menu list

7.1 Menus for the regions other than the US

7.1.1 Mammopraphy menu

1) Exposure menu

Extended Menu Code	ANK Exposure Menu Name	Extended Menu Code	ANK Exposure Menu Name
FCR0307-0000	BREAST, L (DSR)-WW	FCR7302-0016	Mode2 CNR(PMMA70mm)
FCR0308-0000	L MAMMOGRAPHY, CC-US	FCR7302-0017	Mode3 CNR(PMMA20mm)
FCR0308-0001	R MAMMOGRAPHY, CC-US	FCR7302-0018	Mode3 CNR(PMMA40mm)
FCR0309-0001	L MAMMOGRAPHY	FCR7302-0019	Mode3 CNR(PMMA60mm)
FCR030F-0000	MAX4.0 MAMMOGRAPHY	FCR7302-0020	Mode3 CNR(PMMA70mm)
FCR0318-0000	L MAMMOGRAPHY, MLO-US	FCR7302-0021	Mode4 CNR(PMMA20mm)
FCR0318-0001	R MAMMOGRAPHY, MLO-US	FCR7302-0022	Mode4 CNR(PMMA40mm)
FCR0331-0000	L MAMMOGRAPHY, SPOT	FCR7302-0023	Mode4 CNR(PMMA60mm)
FCR0331-0001	R MAMMOGRAPHY, SPOT	FCR7302-0024	Mode4 CNR(PMMA70mm)
FCR0331-0002	L MAMMOGRAPHY, CC, SPOT	FCR7302-0025	Mode5 CNR(PMMA20mm)
FCR0331-0003	R MAMMOGRAPHY, CC, SPOT	FCR7302-0026	Mode5 CNR(PMMA40mm)
FCR0331-0004	L MAMMOGRAPHY, MLO, SPOT	FCR7302-0027	Mode5 CNR(PMMA60mm)
FCR0331-0005	R MAMMOGRAPHY, MLO, SPOT	FCR7302-0028	Mode5 CNR(PMMA70mm)
FCR0331-0006	L MAMMOGRAPHY, ML, SPOT	FCR7302-0029	Mode6 CNR(PMMA20mm)
FCR0331-0007	R MAMMOGRAPHY, ML, SPOT	FCR7302-0030	Mode6 CNR(PMMA40mm)
FCR0331-0008	L MAMMOGRAPHY, CC, SPOT M	FCR7302-0031	Mode6 CNR(PMMA60mm)
FCR0331-0009	R MAMMOGRAPHY, CC, SPOT M	FCR7302-0032	Mode6 CNR(PMMA70mm)
FCR0331-0010	L MAMMOGRAPHY, MLO, SPOT M	FCR7302-0033	Mode7 CNR(PMMA20mm)
FCR0331-0011	R MAMMOGRAPHY, MLO, SPOT M	FCR7302-0034	Mode7 CNR(PMMA40mm)
FCR0331-0012	L MAMMOGRAPHY, ML, SPOT M	FCR7302-0035	Mode7 CNR(PMMA60mm)
FCR0331-0013	R MAMMOGRAPHY, ML, SPOT M	FCR7302-0036	Mode7 CNR(PMMA70mm)
FCR0331-0014	L MAMMOGRAPHY, CC, MAG:M	FCR7302-0037	Mode8 CNR(PMMA20mm)
FCR0331-0015	R MAMMOGRAPHY, CC, MAG:M	FCR7302-0038	Mode8 CNR(PMMA40mm)
FCR0331-0016	L MAMMOGRAPHY, MLO, MAG:M	FCR7302-0039	Mode8 CNR(PMMA60mm)
FCR0331-0017	R MAMMOGRAPHY, MLO, MAG:M	FCR7302-0040	Mode8 CNR(PMMA70mm)
FCR0331-0018	L MAMMOGRAPHY, ML, MAG:M	FCR7303-0001	PHYSICS COLLIMATION
FCR0331-0019	R MAMMOGRAPHY, ML, MAG:M	FCR7303-0002	Uniform Expo.3(Collimation)
FCR0332-0000	MAMMOGRAPHY- CHEST WALL	FCR7303-0003	Uniform Expo.4(Collimation)
FCR0349-0000	L MAMMOGRAPHY, CC	FCR7303-0004	Uniform Expo.5(Collimation)
FCR0349-0001	R MAMMOGRAPHY, CC	FCR7304-0001	PHYSICS DYNAMIC RANGE
FCR0359-0000	L MAMMOGRAPHY, MLO	FCR7305-0001	PHYSICS ACR MAP
FCR0359-0001	R MAMMOGRAPHY, MLO	FCR7307-0000	Biopsy Specimens
FCR0359-0002	L MAMMOGRAPHY,ML	FCR7308-0000	Lumpectomy
FCR0359-0003	R MAMMOGRAPHY,ML	FCR7312-0001	PHYSICS ARTIFACTS
FCR1330-0000	LACTIFEROUS DUCT:C	FCR7313-0001	PHYSICS IP FOG
FCR7302-0001	PHYSICS SENSITIVITY	FCR7313-0002	IP Fog(Non-exposure)
FCR7302-0002	Visual Inspection	FCR7313-0003	ACR Phantom1(Lag)
FCR7302-0003	S Value 1	FCR7313-0004	Non Exposure(Lag)
FCR7302-0004	S Value 2	FCR7313-0005	Uniform Expo.1(Ghost)
FCR7302-0005	S Value 3	FCR7313-0006	ACR Phantom2(Ghost)
FCR7302-0006	CNR	FCR7313-0007	Uniform Expo.2(Ghost)
FCR7302-0007	AGD	FCR7315-0001	PHYSICS TRACKING
FCR7302-0008	S Value	FCR731B-0000	MAMMOGRAPHY, LG
FCR7302-0009	Mode1 CNR(PMMA20mm)	FCR7325-0001	PHYSICS ACR PHANTOM
FCR7302-0010	Mode1 CNR(PMMA40mm)	FCR7325-0002	IP Variations
FCR7302-0011	Mode1 CNR(PMMA60mm)	FCR7325-0003	ACR Phantom
FCR7302-0012	Mode1 CNR(PMMA70mm)	FCR7375-0001	1Shot PhantomM

FCR7302-0013	Mode2 CNR(PMMA20mm)	FCR7375-0002	1ShotM (Magnification)
FCR7302-0014	Mode2 CNR(PMMA40mm)	FCR7375-0003	1Shot PhantomM(40mm)
FCR7302-0015	Mode2 CNR(PMMA60mm)		

2) Study menu

Study Menu Code	ANK Study Menu Name	Study Menu Code	ANK Study Menu Name
FCR0321-00	MAMMOGRAPHY SPOT 2R	FCR7300-08	Semi-annual 1/1
FCR0329-00	MAMMOGRAPHY 2R	FCR7300-09	Annual 1/11
FCR0329-01	L MAMMOGRAPHY 2R	FCR7300-10	Annual 2/11
FCR0329-02	R MAMMOGRAPHY 2R	FCR7300-11	Annual 3/11
FCR0339-00	MAMMOGRAPHY MLO	FCR7300-12	Annual 4/11
FCR7300-00	Installation test 1/3	FCR7300-13	Annual 5/11
FCR7300-01	Installation test 2/3	FCR7300-14	Annual 6/11
FCR7300-02	Installation test 3/3	FCR7300-15	Annual 7/11
FCR7300-03	Calculation 1/2	FCR7300-16	Annual 8/11
FCR7300-04	Calculation 2/2	FCR7300-17	Annual 9/11
FCR7300-05	1Shot PhantomM	FCR7300-18	Annual 10/11
FCR7300-06	ACR Phantom	FCR7300-19	Annual 11/11
FCR7300-07	1Shot/ACR		

7.1.2 Tomosynthesis menu

1) Exposure menu

Extended Menu Code	ANK Exposure Menu Name	Extended Menu Code	ANK Exposure Menu Name
FCR7000-0001	SKULL,LAT:TMS	FCR7500-0001	LUMBAR SPINE, LAT,SUPINE:TMS
FCR7000-0002	SKULL,FRN:TMS	FCR7500-0002	LUMBAR SPINE, FRN,UPRIGHT:TMS
FCR7000-0003	PARANASAL SINUS, LAT:TMS	FCR7500-0003	LUMBER SPINE, LAT,UPRIGHT:TMS
FCR7000-0004	PARANASAL SINUS, FRN:TMS	FCR7501-0000	PELVIS:TMS
FCR7003-0000	MANDIBULAR JNT, LAT:TMS	FCR7502-0000	HIP JNT,FRN:TMS
FCR7100-0000	CERVICAL SPINE, FRN:TMS	FCR7502-0001	HIP JNT,LAT:TMS
FCR7100-0001	CERVICAL SPINE, LAT:TMS	FCR7601-0000	WRIST JNT,LAT:TMS
FCR7202-0000	CHEST,SUPINE:TMS	FCR7601-0001	WRIST JNT,FRN:TMS
FCR7202-0001	CHEST,UPRIGHT:TMS	FCR7601-0002	HAND,LAT:TMS
FCR7203-0000	THORACIC SPINE, FRN:TMS	FCR7601-0003	HAND,FRN:TMS
FCR7204-0000	THORACIC SPINE, LAT:TMS	FCR7701-0000	KNEE JNT, FRN,SUPINE:TMS
FCR7205-0000	SHOULDER JNT, SUPINE:TMS	FCR7701-0001	KNEE JNT, LAT,SUPINE:TMS
FCR7205-0001	SHOULDER JNT, UPRIGHT:TMS	FCR7701-0002	KNEE JNT, FRN,UPRIGHT:TMS
FCR7400-0000	ABDOMEN,SUPINE:TMS	FCR7701-0003	KNEE JNT, LAT,UPRIGHT:TMS
FCR7400-0001	IVP,SUPINE:TMS	FCR7702-0000	ANKLE JNT,FRN:TMS
FCR7400-0002	ABDOMEN, UPRIGHT:TMS	FCR7702-0001	ANKLE JNT,LAT:TMS
FCR7400-0003	IVP,UPRIGHT:TMS	FCR7702-0002	FOOT,LAT:TMS
FCR7500-0000	LUMBAR SPINE, FRN,SUPINE:TMS	FCR7702-0003	FOOT,OBL:TMS

2) Study menu

None

7.2 Menus for the US

7.2.1 Mammography menu

1) Exposure menu

Extended Menu Code	ANK Exposure Menu Name	Extended Menu Code	ANK Exposure Menu Name
FCR0308-0000	LCC	FCR7302-0031	Mode6 CNR(PMMA60mm)
FCR0308-0001	RCC	FCR7302-0032	Mode6 CNR(PMMA70mm)
FCR030F-0000	MAX4.0 MAMMOGRAPHY	FCR7302-0033	Mode7 CNR(PMMA20mm)
FCR0318-0000	LMLO	FCR7302-0034	Mode7 CNR(PMMA40mm)
FCR0318-0001	RMLO	FCR7302-0035	Mode7 CNR(PMMA60mm)
FCR0328-0000	LML	FCR7302-0036	Mode7 CNR(PMMA70mm)
FCR0328-0001	RML	FCR7302-0037	Mode8 CNR(PMMA20mm)
FCR0338-0000	LXCCL	FCR7302-0038	Mode8 CNR(PMMA40mm)
FCR0338-0001	RXCCL	FCR7302-0039	Mode8 CNR(PMMA60mm)
FCR0348-0000	LXCCM	FCR7302-0040	Mode8 CNR(PMMA70mm)
FCR0348-0001	RXCCM	FCR7303-0001	PHYSICS COLLIMATION
FCR7301-0000	LCC SPOT	FCR7303-0002	Uniform Expo.3(Collimation)
FCR7301-0001	RCC SPOT	FCR7303-0003	Uniform Expo.4(Collimation)
FCR7302-0001	PHYSICS SENSITIVITY	FCR7303-0004	Uniform Expo.5(Collimation)
FCR7302-0002	Visual Inspection	FCR7304-0001	PHYSICS DYNAMIC RANGE
FCR7302-0003	S Value 1	FCR7305-0001	PHYSICS ACR MAP
FCR7302-0004	S Value 2	FCR7307-0000	Biopsy Specimens
FCR7302-0005	S Value 3	FCR7308-0000	Lumpectomy
FCR7302-0006	CNR	FCR7312-0001	PHYSICS ARTIFACTS
FCR7302-0007	AGD	FCR7313-0001	PHYSICS IP FOG
FCR7302-0008	S Value	FCR7313-0002	IP Fog(Non-exposure)
FCR7302-0009	Mode1 CNR(PMMA20mm)	FCR7313-0003	ACR Phantom1(Lag)
FCR7302-0010	Mode1 CNR(PMMA40mm)	FCR7313-0004	Non Exposure(Lag)
FCR7302-0011	Mode1 CNR(PMMA60mm)	FCR7313-0005	Uniform Expo.1(Ghost)
FCR7302-0012	Mode1 CNR(PMMA70mm)	FCR7313-0006	ACR Phantom2(Ghost)
FCR7302-0013	Mode2 CNR(PMMA20mm)	FCR7313-0007	Uniform Expo.2(Ghost)
FCR7302-0014	Mode2 CNR(PMMA40mm)	FCR7315-0001	PHYSICS TRACKING
FCR7302-0015	Mode2 CNR(PMMA60mm)	FCR7321-0000	LMLO SPOT
FCR7302-0016	Mode2 CNR(PMMA70mm)	FCR7321-0001	RMLO SPOT
FCR7302-0017	Mode3 CNR(PMMA20mm)	FCR7325-0002	IP Variations
FCR7302-0018	Mode3 CNR(PMMA40mm)	FCR7325-0003	ACR Phantom
FCR7302-0019	Mode3 CNR(PMMA60mm)	FCR7331-0000	LML SPOT
FCR7302-0020	Mode3 CNR(PMMA70mm)	FCR7331-0001	RML SPOT
FCR7302-0021	Mode4 CNR(PMMA20mm)	FCR7341-0000	LCC M
FCR7302-0022	Mode4 CNR(PMMA40mm)	FCR7341-0001	RCC M
FCR7302-0023	Mode4 CNR(PMMA60mm)	FCR7351-0000	LMLO M
FCR7302-0024	Mode4 CNR(PMMA70mm)	FCR7351-0001	RMLO M
FCR7302-0025	Mode5 CNR(PMMA20mm)	FCR7361-0000	LML M
FCR7302-0026	Mode5 CNR(PMMA40mm)	FCR7361-0001	RML M
FCR7302-0027	Mode5 CNR(PMMA60mm)	FCR7375-0001	1Shot PhantomM
FCR7302-0028	Mode5 CNR(PMMA70mm)	FCR7375-0002	1ShotM (Magnification)
FCR7302-0029	Mode6 CNR(PMMA20mm)	FCR7375-0003	1Shot PhantomM(40mm)
FCR7302-0030	Mode6 CNR(PMMA40mm)		

2) Study menu

Study Menu Code	ANK Study Menu Name	Study Menu Code	ANK Study Menu Name
FCR7300-00	Installation test 1/3	FCR7300-10	Annual 2/11
FCR7300-01	Installation test 2/3	FCR7300-11	Annual 3/11
FCR7300-02	Installation test 3/3	FCR7300-12	Annual 4/11
FCR7300-03	Calculation 1/2	FCR7300-13	Annual 5/11
FCR7300-04	Calculation 2/2	FCR7300-14	Annual 6/11
FCR7300-05	1Shot PhantomM	FCR7300-15	Annual 7/11
FCR7300-06	ACR Phantom	FCR7300-16	Annual 8/11
FCR7300-07	1Shot/ACR	FCR7300-17	Annual 9/11
FCR7300-08	Annual A 1/1	FCR7300-18	Annual 10/11
FCR7300-09	Annual 1/11	FCR7300-19	Annual 11/11

7.2.2 Tomosynthesis menu

1) Exposure menu

Extended Menu Code	ANK Exposure Menu Name	Extended Menu Code	ANK Exposure Menu Name
FCR7000-0001	SKULL,LAT:TMS	FCR7500-0001	LUMBAR SPINE, LAT,SUPINE:TMS
FCR7000-0002	SKULL,FRN:TMS	FCR7500-0002	LUMBAR SPINE, FRN,UPRIGHT:TMS
FCR7000-0003	PARANASAL SINUS, LAT:TMS	FCR7500-0003	LUMBER SPINE, LAT,UPRIGHT:TMS
FCR7000-0004	PARANASAL SINUS, FRN:TMS	FCR7501-0000	PELVIS:TMS
FCR7003-0000	MANDIBULAR JNT, LAT:TMS	FCR7502-0000	HIP JNT,FRN:TMS
FCR7100-0000	CERVICAL SPINE, FRN:TMS	FCR7502-0001	HIP JNT,LAT:TMS
FCR7100-0001	CERVICAL SPINE, LAT:TMS	FCR7601-0000	WRIST JNT,LAT:TMS
FCR7202-0000	CHEST,SUPINE:TMS	FCR7601-0001	WRIST JNT,FRN:TMS
FCR7202-0001	CHEST,UPRIGHT:TMS	FCR7601-0002	HAND,LAT:TMS
FCR7203-0000	THORACIC SPINE, FRN:TMS	FCR7601-0003	HAND,FRN:TMS
FCR7204-0000	THORACIC SPINE, LAT:TMS	FCR7701-0000	KNEE JNT, FRN,SUPINE:TMS
FCR7205-0000	SHOULDER JNT, SUPINE:TMS	FCR7701-0001	KNEE JNT, LAT,SUPINE:TMS
FCR7205-0001	SHOULDER JNT, UPRIGHT:TMS	FCR7701-0002	KNEE JNT, FRN,UPRIGHT:TMS
FCR7400-0000	ABDOMEN,SUPINE:TMS	FCR7701-0003	KNEE JNT, LAT,UPRIGHT:TMS
FCR7400-0001	IVP,SUPINE:TMS	FCR7702-0000	ANKLE JNT,FRN:TMS
FCR7400-0002	ABDOMEN, UPRIGHT:TMS	FCR7702-0001	ANKLE JNT,LAT:TMS
FCR7400-0003	IVP,UPRIGHT:TMS	FCR7702-0002	FOOT,LAT:TMS
FCR7500-0000	LUMBAR SPINE, FRN,SUPINE:TMS	FCR7702-0003	FOOT,OBL:TMS

2) Study menu

None

DR-ID 300CL V7.0 ECN_Appendix-C
List of Changes in System Config

The following items have been added.

[1.IMAGE/MODALITY]

No.	Name	Area(⊙:Default value)	Comment
35	Modality Setup for Mammography Image	0:MG 2:CR ⊙	Specifying modality for study (exclusively for mammography)
342	Image File Type For Tomosynthesis Viewer	0:THM⊙ 1:STD	Types of image to display on the tomosysthesis viewer. 0: image reduced 1/2 in size 1: image with normal density
349	Enable Implant Input	Yes No ⊙	Presence or absence of implant information
350	Display Pixel Size for 2nd monitor	264⊙ 1～	Display pixel size [*0.001mm] for the 2nd monitor

[3.QA FUNCTION]

No.	Name	Area(⊙:Default value)	Comment
19	Pem Processing in the case of Magnify Display	Yes ⊙ No	Specifying whether or not to perform PEM processing on and ultra-high density image when it is magnified and displayed.（for CR only）
22	Enable Adjust GA/GS by dragging	Yes⊙ No	Enabling/Disabling GA/GS adjustment by dragging mouse
23	Response GA	0-99 (⊙18)	Making smaller GA sensitivity value more sensitive when performing GA/GS adjustment by dragging mouse
24	Response GS	0-99 (⊙18)	Making smaller GS sensitivity value more sensitive when performing GA/GS adjustment by dragging mouse

[4.PRINTER]

No.	Name	Area(⊙:Default value)	Comment
12	Trimming Range for Mammography [mm]	0 ⊙	Specifying the amount of trimming in mm (for mammography)
27	Print Image Frame (2636 film:18x24,24x30/2025 film:18x24 Single Mammography Format)	Yes ⊙ No	Specifying whether or not to add image frame to 18×24cm or 24×30cm size images that are printed on 26×36cm size film in the single mammography format or to 18×24cm size images that are printed on 8"×10" size film in the single mammography format
28	Print Image Frame (2636film:18x24 2on1 100% Mammography Format)	Yes ⊙ No	Specifying whether or not to add image frame when printing an 18×24cm size image on 26×36cm size film in mammography 2on1 (100%) format
57	Gap Between Image Edge and Film Edge (Mammography Format)[x0.1mm]	0 – 50(0⊙)	Gap between image edge and film edge on Mammography Format (Single, 2 on 1) [× 0.1mm]
61	2636 Film Character Field Position & Rotation (Left Image of 2on1 Mammography Format)	0020⊙	Specifying the left-hand image film annotation character field position and rotation for outputting an image produced from the mammography menu (18×24cm image) to 26×36cm film in 2on1 mammography format(100% magnification)

62	2636 Film Character Field Position & Rotation (Right Image of 2on1 Mammography Format)	1030⊙	Specifying the right-hand image film annotation character field position and rotation for outputting an image produced from the mammography menu (18×24cm image) to 26×36cm film in 2on1 mammography format (100% magnification)
74	Film String Format	0:GeneralFormatOnly ⊙ 1:MammographyFormat	Specifying whether to use general-format film annotation characters for all images (as has been previously) or special film annotation characters defined exclusively for mammography images
87	Film Character Mode Setting on XCON Material Info	0：DICOM ⊙ 1：XCON	Specifying film annotation characters of mammography XCON material information. 0:DICOM Conforms to the DICOM definitions (as has been so previously). 1:XCON Conforms to the XCON I/F definitions

[5.CSL/IDT FUNCTION]

No.	Name	Area(⊙:Default value)	Comment
109	Xcon Interlock Command Transfer	Yes No ⊙	Specifying whether or not to transmit the interlock command.
117	Xcon DoseValue1	0:Average Organ Dose 1:Entrance Dose ⊙ 2:Dose Product	Specifying which of the mammary gland absorption dose, exposure dose and area dose (of the two types of dose values transmitted from the X-CON) is to be assigned to Value1.
118	Xcon DoseValue2	0:Average Organ Dose 1:Entrance Dose 2:Dose Product ⊙	Specifying which of the mammary gland absorption dose, exposure dose and area dose (of the two types of dose values transmitted from the X-CON) is to be assigned to Value2.
340	Enable Auto Pairing	Yes No ⊙	Specifying whether or not to enable the auto pairing.
348	Display Calibration Dialog	0:Yes ⊙1:No	Displaying/Not displaying dialog message during calibration.
352	Use X free High Sensitive Mode	Yes ⊙No	Enabling/Disabling the high sensitivity mode for DR cassette
353	Time-out Value in High Sensitive Mode	⊙30 The value range is 5-60	Time-out value for the high sensitivity mode（sec.）
354	MPM Code for QC Lag Image	⊙091E Multiple values can be input by separating them by commas.	Console receives a blank image after the time for the high sensitivity mode is over in the case of selected MPM code

DR-ID 300CL V7.0 ECN_Appendix-D
List of Changes in Conformance Statement

This chapter describes the changes from the DR-ID 300CL V6.2 Conformance Statement.

1. Changes related to Handling of the SOP Class

■Digital Mammography X-Ray Image Storage – For Presentation support

○TABLE 4.2-15 SOP CLASSES FOR THE STORAGE-SCU AE

SOP Class Name	SOP Class UID	SCU	SCP
Digital Mammography X-Ray Image Storage – For Presentation	1.2.840.10008.5.1.4.1.1.1.2	Yes	No

○TABLE 4.2-20 POPOSED PRESENTATION CONTEXTS FOR ACTIVITY SEND IMAGES

Presentation Context Table					
Abstract Syntax		Transfer Syntax		Role	Ext. Neg.
Name	UID	Name List	UID List		
Digital Mammography X-Ray Image Storage – For Presentation	1.2.840.10008.5.1.4.1.1.1.2	Implicit VR Little Endian	1.2.840.10008.1.2	SCU	None
		Explicit VR Little Endian	1.2.840.10008.1.2.1		
		JPEG Lossless Hierarchical First-Order Prediction	1.2.840.10008.1.2.4.70		

○TABLE 5.3-2 SOP CLASS AUGMENTATIONS

Information Object Definition	SOP Class UID	Transfer Syntax	Transfer Syntax UID
Digital Mammography Image Storage – For Presentation	1.2.840.10008.5.1.4.1.1.1.2	Implicit VR Little Endian (Only AUG-GEN-DVD±RW, AUG-GEN-USB)	1.2.840.10008.1.2
		Explicit VR Little Endian	1.2.840.10008.1.2.1
		JPEG Lossless Hierarchical First-Order Prediction	1.2.840.10008.1.2.4.70

2. Tag Additions/Changes

■Digital Mammography X-Ray Image Storage – For Presentation support

○TABLE 8.1-1 IOD OF CREATED CR IMAGE STORAGE SOP INSTANCES
following contents have been changed.(PRINTED IN BLUE)

IE	Module	Usage	Reference
Patient	Patient	M	Table 8.1-5
	Clinical Trial Subject	U	Not Supported
Study	General Study	M	Table 8.1-6
	Patient Study	U	Table 8.1-7
	Clinical Trial Study	U	Not Supported
Series	General Series	M	Table 8.1-8
	CR Series	M	Table 8.1-9
	Clinical Trial Series	U	Not Supported
Equipment	General Equipment	M	Table 8.1-12

IE	Module	Usage	Reference
Image	General Image	M	Table 8.1-13
	Image Pixel	M	Table 8.1-14
	Contrast/bolus	C - Required if contrast media was used in this image	Table 8.1-15
	Device	U	Not Supported
	CR Image	M	Table 8.1-17
	X-ray Tomo Acquisition	U	Table 8.1-22
	Overlay Plane	C - Required if graphic annotation is present	Table 8.1-30
	Modality LUT	U	Table 8.1-25
	VOI LUT	U	Table 8.1-26
	SOP Common	M	Table 8.1-28
Extended	DX Positioning	-	Table 8.1-21
	X-ray Acquisition Dose	-	Table 8.1-23
	X-ray Generation	-	Table 8.1-24

○TABLE 8.1-2 IOD OF CREATED DX IMAGE STORAGE SOP INSTANCES
following contents have been changed.(PRINTED IN BLUE)

IE	Module	Usage	Reference
Patient	Patient	M	Table 8.1-5
	Specimen Identification	U	Not Supported
	Clinical Trial Subject	U	Not Supported
Study	General Study	M	Table 8.1-6
	Patient Study	U	Table 8.1-7
	Clinical Trial Study	U	Not Supported
Series	General Series	M	Table 8.1-8
	Clinical Trial Series	U	Not Supported
	DX Series	M	Table 8.1-10
	Frame of Reference	U	Not Supported
Equipment	General Equipment	M	Table 8.1-12
Image	General Image	M	Table 8.1-13
	Image Pixel	M	Table 8.1-14
	Contrast/bolus	U	Table 8.1-15
	Display Shutter	U	Not Supported
	Device	U	Not Supported
	Intervention	U	Not Supported
	DX Anatomy Imaged	M	Table 8.1-16
	DX Image	M	Table 8.1-18
	DX Detector	M	Table 8.1-20
	X-ray Collimator	U	Not Supported
	DX Positioning	U	Table 8.1-21
	X-ray Tomo Acquisition	U	Table 8.1-22
	X-ray Acquisition Dose	U	Table 8.1-23
	X-ray Generation	U	Table 8.1-24
Image	X-ray Filtration	U	Table 8.1-29
	X-ray Grid	U	Not Supported

IE	Module	Usage	Reference
	Overlay Plane	C - Required if graphic annotation is present	Table 8.1-30
	VOI LUT	C - Required if Presentation Intent Type (0008,0068) is FOR PRESENTATION. Shall not be present otherwise.	Table 8.1-26
	Image Histogram	U	Not Supported
	Acquisition Context	M	Table 8.1-27
	SOP Common	M	Table 8.1-28

○TABLE 8.1-3 IOD OF CREATED MG IMAGE STORAGE SOP INSTANCES
following contents have been added.

IE	Module	Usage	Reference
Patient	Patient	M	Table 8.1-5
	Specimen Identification	U	Not Supported
	Clinical Trial Subject	U	Not Supported
Study	General Study	M	Table 8.1-6
	Patient Study	U	Table 8.1-7
	Clinical Trial Study	U	Not Supported
Series	General Series	M	Table 8.1-8
	Clinical Trial Series	U	Not Supported
	DX Series	M	Table 8.1-10
	Mammography Series	M	Table 8.1-11
	Frame of Reference	U	Not Supported
Equipment	General Equipment	M	Table 8.1-12
Image	General Image	M	Table 8.1-13
	Image Pixel	M	Table 8.1-14
	Contrast/bolus	U	Table 8.1-15
	Display Shutter	U	Not Supported
	Device	U	Not Supported
	Intervention	U	Not Supported
	DX Anatomy Imaged	M	Table 8.1-16 Included in the Mammography Image Module.
	DX Image	M	Table 8.1-18
	DX Detector	M	Table 8.1-20
	X-ray Collimator	U	Not Supported
	DX Positioning	U	Table 8.1-21
	X-ray Tomo Acquisition	U	Table 8.1-22
	X-ray Acquisition Dose	U	Table 8.1-23
	X-ray Generation	U	Table 8.1-24
	X-ray Filtration	U	Table 8.1-29
Image	X-ray Grid	U	Not Supported
	Overlay Plane	C - Required if graphic annotation is present	Table 8.1-30

IE	Module	Usage	Reference
	VOI LUT	C - Required if Presentation Intent Type (0008,0068) is FOR PRESENTATION. Shall not be present otherwise.	Table 8.1-26
	Image Histogram	U	Not Supported
	Acquisition Context	M	Table 8.1-27
	SOP Common	M	Table 8.1-28

NOTE: The IOD includes Private attributes and standard extended attributes documented in Section 8.2. See 8.2 and 8.5.

○TABLE 8.1-4 IOD OF CREATED X-RAY RADIATION DOSE SR SOP INSTANCES
following contents have been changed. (PRINTED IN BLUE)

IE	Module	Usage	Reference
Patient	Patient	M	Table 8.1-5
	Specimen Identification	U	Not Supported
	Clinical Trial Subject	U	Not Supported
Study	General Study	M	Table 8.1-6
	Patient Study	U	Not Supported
	Clinical Trial Study	U	Not Supported
Series	SR Document Series	M	Table 8.1-32
	Clinical Trial Series	U	Not Supported
Frame of Reference	Synchronization	U	Not Supported
Equipment	General Equipment	M	Table 8.1-12
Document	SR Document General	M	Table 8.1-33
	SR Document Content	M	Table 8.1-34
	SOP Common	U	Table 8.1-28

○TABLE 8.1-11 MAMMOGRAPY SERIES MODULE OF CREATED MG IMAGE STORAGE SOP INSTANCES
following contents were added.

Attribute Name	Tag	Type	Dicom Attribute Description	Presence of Value	Source
Modality	(0008,0060)	1	Type of equipment that originally acquired the data used to create the images in this Series. Enumerated Values:MG	ALWAYS Value is “MG”	AUTO
Request Attributes Sequence	(0040,0275)	3	Sequence that contains attributes from the Imaging Service Request. The sequence may have one or more Items.	ANAP	MWL
>Reason for Requested Procedure Code Sequence	(0040,100A)	3	Coded Reason for requesting this procedure. One or more sequence items may be present.	ANAP	MWL

○TABLE 8.1-19 MAMMOGRAPHY IMAGE MODULE OF CREATED MG IMAGE STORAGE SOP INSTANCES

following contents have been added.

Attribute Name	Tag	Type	Dicom Attribute Description	Presence of Value	Source
Positioner Type	(0018,1508)	1	Enumerated Values: MAMMOGRAPHIC NONE	ALWAYS Value is “MAMMOGRAPHIC”	AUTO
Positioner Primary Angle	(0018,1510)	3	Position in degrees of the X-Ray beam vector in the coronal anatomical plane as if the patient were standing where movement of the X-Ray source from right to vertical is positive, and vertical is zero.	EMPTY	AUTO
Positioner Secondary Angle	(0018,1511)	3	Position in degrees of the X-Ray beam vector in the sagittal anatomical plane as if the patient were standing where movement of the X-Ray source from anterior to posterior is positive, and vertical is zero.	EMPTY	AUTO
Image Laterality	(0020,0062)	1	Laterality of the region examined. Enumerated Values: R = right L = left B = both (e.g. cleavage)	ALWAYS	CONFIG /USER
Organ Exposed	(0040,0318)	1	Organ to which Organ Dose (0040,0316) applies. Enumerated Value: BREAST	ALWAYS Value is “BREAST”	AUTO
Implant Present	(0028,1300)	3	Whether or not an implant is present. Enumerated Values: YES NO	ANAP	USER
Anatomic Region Sequence	(0008,2218)	1	Sequence that identifies the anatomic region of interest in this Instance (i.e.external anatomy, surface anatomy, or general region of the body). Only a single Item shall be permitted in this sequence.	ALWAYS	CONFIG /USER
>Code Value	(0008,0100)	1C	Required if a sequence item is present.	ALWAYS	USER
>Coding Scheme Designator	(0008,0102)	1C	Required if a sequence item is present.	ALWAYS	USER

Attribute Name	Tag	Type	Dicom Attribute Description	Presence of Value	Source
>Coding Scheme Version	(0008,0103)	1C	Required if a sequence item is present. Required if the value of Coding Scheme Designator (0008,0102) is not sufficient to identify the Code Value (0008,0100) unambiguously.	ANAP	USER
>Code Meaning	(0008,0104)	1C	Required if a sequence item is present.	ALWAYS	USER
Partial View	(0028,1350)	3	Indicates whether this image is a partial view, that is a subset of a single view of the breast. Enumerated Values: YES, NO If this Attribute is absent, then the image may or may not be a partial view.	ANAP Value is “NO”	AUTO
View Code Sequence	(0054,0220)	1	Sequence that describes the projection of the anatomic region of interest on the image receptor. Only a single Item shall be permitted in this Sequence.	ALWAYS	USER
>Code Value	(0008,0100)	1C	Required if a sequence item is present.	ALWAYS	USER
>Coding Scheme Designator	(0008,0102)	1C	Required if a sequence item is present.	ALWAYS	USER
>Coding Scheme Version	(0008,0103)	1C	Required if a sequence item is present. Required if the value of Coding Scheme Designator (0008,0102) is not sufficient to identify the Code Value (0008,0100) unambiguously.	ANAP	USER
>Code Meaning	(0008,0104)	1C	Required if a sequence item is present.	ALWAYS	USER
>View Modifier Code Sequence	(0054,0222)	2	View modifier. Zero or more Items may be included in this Sequence.	VNAP	USER
>>Code Value	(0008,0100)	1C	Required if a sequence item is present.	ANAP	USER
>>Coding Scheme Designator	(0008,0102)	1C	Required if a sequence item is present	ANAP	USER
>>Coding Scheme Version	(0008,0103)	1C	Required if a sequence item is present. Required if the value of Coding Scheme Designator (0008,0102) is not sufficient to identify the Code Value (0008,0100) unambiguously.	ANAP	USER
>>Code Meaning	(0008,0104)	1C	Required if a sequence item is present	ANAP	USER

○TABLE 8.1-21 DX POSITIONING MODULE OF CREATED SOP INSTANCES
following contents have been added and changed. (PRINTED IN BLUE)

Attribute Name	Tag	Type	Dicom Attribute Description	Presence of Value	Source
Positioner Type	(0018,1508)	2	Defined Terms: CARM, COLUMN, MAMMOGRAPHIC, PANORAMIC, CEPHALOSTAT, RIGID, NONE	VNAP When CR or DX is used for Modality (0008,0060), value is “NONE” or “COLUMN” When MG is used for Modality (0008,0060), value is “MAMMOGRAPHIC”	AUTO
Body Part Thickness	(0018,11A0)	3	The average thickness in mm of the body part examined when compressed, if compression has been applied during exposure.	ANAP	AUTO
Compression Force	(0018,11A2)	3	The compression force applied to the body part during exposure, measured in Newtons.	ANAP	AUTO

○TABLE 8.1-23 X-RAY ACQUISITION DOSE MODULE OF CREATED SOP INSTANCES
following contents have been added.

Attribute Name	Tag	Type	Dicom Attribute Description	Presence of Value	Source
Body Part Thickness	(0018,11A0)	3	The average thickness in mm of the body part examined when compressed, if compression has been applied during exposure.	ANAP	AUTO
Organ Dose	(0040,0316)	3	Average organ dose value measured in dGy during the acquisition of this image.	ANAP	AUTO

○TABLE 8.1-33 SR DOCUMENT GENERAL MODULE OF CREATED X-RAY RADIATION DOSE SR SOP INSTANCES

following contents have been deleted.

Attribute Name	Tag	Type	Dicom Attribute Description	Presence of Value	Source
~~Current Requested Procedure Evidence Sequence~~	~~(0040,A375)~~	~~1C~~	~~Full set of Composite SOP Instances, of which the creator is aware, which were created to satisfy the current Requested Procedure(s) for which this SR Document is generated or that are referenced in the content tree. One or more Items may be included in this sequence. Required if the creator is aware of Composite Objects acquired in order to satisfy the Requested Procedure(s) for which the SR Document is or if instances are referenced in the content tree. May be present otherwise. See C.17.2.3 for further explanation.~~	~~VNAP~~	~~AUTO~~
~~>Study Instance UID~~	~~(0020,000D)~~	~~1~~	~~Unique identifier for the Study.~~	~~VNAP~~	~~MWL/ AUTO~~
~~>Referenced Series Sequence~~	~~(0008,1115)~~	~~1~~	~~Sequence of Repeating Items where each Item includes the Attributes of a Series. Zero or more Items may be included in this Sequence.~~	~~VNAP~~	~~AUTO~~
~~>>Series Instance UID~~	~~(0020,000E)~~	~~1~~	~~Unique identifier of the Series.~~	~~VNAP~~	~~AUTO~~
~~>>Referenced SOP Sequence~~	~~(0008,1199)~~	~~1~~	~~References to Composite Object SOP Class/SOP Instance pairs that are part of the Study defined by Study Instance UID and the Series defined by Series Instance UID (0020,000E). One or more Items may be included in this sequence~~	~~VNAP~~	~~AUTO~~
~~>>>Referenced SOP Class UID~~	~~(0008,1150)~~	~~1~~	~~Uniquely identifies the SOP Class~~	~~VNAP~~	~~AUTO~~
~~>>>Referenced SOP Instance UID~~	~~(0008,1155)~~	~~1~~	~~Uniquely identifies the SOP Instance.~~	~~VNAP~~	~~AUTO~~

○TABLE 8.1-34 SR DOCUMENT CONTENT MODULE OF CREATED SOP INSTANCES

following contents have been added.

Attribute Name	Tag	Type	Dicom Attribute Description	Presence of Value	Source
Include Document Content Macro TABLE 8.1-34. with a Value Type (0040,A040) of CONTAINER					
Include Document Relationship Macro TABLE 8.1-35.					

○TABLE 8.1- 35 DOCUMENT CONTENT MACRO ATTRIBUTES
following contents have been added.

Attribute Name	Tag	Type	Dicom Attribute Description	Presence of Value	Source
Value Type	(0040,A040)	1	The type of the value encoded in this Content Item.	ALWAYS Defined terms: "TEXT" "NUM" "CODE" "DATETIME" "UIDREF" "IMAGE" "CONTAINER"	AUTO
Concept Name Code Sequence	(0040,A043)	1C	Code describing the concept represented by this Content Item. Also conveys the value of Document Title and section headings in documents. Only a single Item shall be permitted in this sequence. Required if Value Type (0040,A040) is TEXT, NUM, CODE, DATETIME, DATE, TIME, UIDREF or PNAME. Required if Value Type (0040,A040) is CONTAINER and a heading is present, or this is the Root Content Item. Required if Value Type (0040,A040) is COMPOSITE, IMAGE, WAVEFORM, SCOORD, SCOORD3D or TCOORD, and the Purpose of Reference is conveyed in the Concept Name.	ALWAYS	AUTO
Text Value	(0040,A160)	1C	This is the value of the Content Item. Required if Value Type (0040,A040) is TEXT. Text data which is unformatted and whose manner of display is implementation dependent. The text value may contain spaces, as well as multiple lines separated by either LF, CR, CR LF or LF CR, but otherwise no format control characters (such as horizontal or vertical tab and form feed) shall be present, even if permitted by the Value Representation of UT. The text shall be interpreted as specified by Specific Character Set (0008,0005) if present in the SOP Common Module. Note: The text may contain single or multibyte characters and use code extension techniques as described in PS 3.5 if permitted by the values of Specific Character Set (0008,0005).	ANAP	AUTO

Attribute Name	Tag	Type	Dicom Attribute Description	Presence of Value	Source
DateTime	(0040,A120)	1C	This is the value of the Content Item. Required if Value Type (0040,A040) is DATETIME.	ANAP	AUTO
UID	(0040,A124)	1C	This is the value of the Content Item. Required if Value Type (0040,A040) is UIDREF.	ANAP	AUTO
Include 'Numeric Measurement Macro' TABLE 8.1-36 if and only if Value Type (0040,A040) is NUM.					
Include 'Code Macro' TABLE 8.1-37 if and only if Value Type (0040,A040) is CODE.					
Include 'Image Reference Macro' TABLE 8.1-38 if and only if Value Type (0040,A040) is IMAGE.					
Include 'Container Macro' TABLE 8.1-39 if and only if Value Type (0040,A040) is CONTAINER.					

○TABLE 8.1- 36 DOCUMENT RELATIONSHIP MACRO ATTRIBUTES
following contents have been added.

Attribute Name	Tag	Type	Dicom Attribute Description	Presence of Value	Source
Observation DateTime	(0040,A032)	1C	The date and time on which this Content Item was completed. For the purpose of recording measurements or logging events, completion time is defined as the time of data acquisition of the measurement, or the time of occurrence of the event. Required if the date and time are different from the Content Date (0008,0023) and Content Time (0008,0033) or the Observation DateTime (0040,A032) defined in higher items. May be present otherwise. Note: When Content Items are copied into successor reports, the Content Date(0008,0023) and Content Time(0008,0033) of the new report are likely to be different than the date and time of the original observation. Therefore this attribute may need to be included in any copied Content Items to satisfy the condition.	ALWAYS	AUTO

Attribute Name	Tag	Type	Dicom Attribute Description	Presence of Value	Source
Content Sequence	(0040,A010)	1C	A potentially recursively nested Sequence of Items that conveys content that is the Target of Relationships with the enclosing Source Content Item. One or more Items shall be included in this sequence. Required if the enclosing Content Item has relationships. Notes: 1. If this Attribute is not present then the enclosing Item is a leaf. 2. The order of Items within this Sequence is semantically significant for presentation.	ALWAYS	AUTO
>Relationship Type	(0040,A010)	1	The type of relationship between the (enclosing) Source Content Item and the Target Content Item. IODs specify additional constraints on Relationships (including lists of Enumerated Values). Defined Terms: CONTAINS HAS PROPERTIES HAS OBS CONTEXT HAS ACQ CONTEXT INFERRED FROM SELECTED FROM HAS CONCEPT MOD	ALWAYS VALUE is "HAS CONCEPT MOD" or "CONTAINS"	AUTO
>Include Document Relationship Macro TABLE 8.1-36 if the Target Content Item is included by-value in the Source Content Item. The Macro shall not be present if the relationship is by-reference.					
>Include Document Content Macro TABLE 8.1-35 if the Target Content Item is included by-value in the Source Content Item. The Macro shall not be present if the relationship is by-reference.					

○TABLE 8.1- 37 NUMERIC MESUREMENET MACRO ATTRIBUTES
following contents have been added.

Attribute Name	Tag	Type	Dicom Attribute Description	Presence of Value	Source
Measured Value Sequence	(0040,A300)	2	This is the value of the Content Item. Shall consist of a Sequence of Items conveying the measured value(s), which represent integers or real numbers and units of measurement. Zero or one Item shall be included in this sequence.	ALWAYS	AUTO
>Numeric Value	(0040,A30A)	1	Numeric measurement value. Only a single value shall be present.	ALWAYS	AUTO
>Measurement Units Code Sequence	(0040,08EA)	1	Units of measurement. Only a single Item shall be included in this sequence.	ALWAYS	AUTO

Attribute Name	Tag	Type	Dicom Attribute Description	Presence of Value	Source
>>Code Value	(0008,0100)	1	Required if a sequence item is present.	ALWAYS	AUTO
>>Coding Scheme Designator	(0008,0102)	1	Required if a sequence item is present.	ALWAYS	AUTO
>>Coding Scheme Version	(0008,0103)	1C	Required if a sequence item is present. Required if the value of Coding Scheme Designator (0008,0102) is not sufficient to identify the Code Value (0008,0100) unambiguously.	ALWAYS	AUTO
>> Code Meaning	(0008,0104)	1	Required if a sequence item is present.	ALWAYS	AUTO

○TABLE 8.1- 38 CODE MACRO ATTRIBUTES
following contents have been added.

Attribute Name	Tag	Type	Dicom Attribute Description	Presence of Value	Source
Concept Code Sequence	(0040,A168)	1	This is the value of the Content Item. Only a single Item shall be included in this sequence.	ALWAYS	AUTO/ USER
>Code Value	(0008,0100)	1	Required if a sequence item is present.	ALWAYS	AUTO
>Coding Scheme Designator	(0008,0102)	1	Required if a sequence item is present.	ALWAYS	AUTO
>Coding Scheme Version	(0008,0103)	1C	Required if a sequence item is present. Required if the value of Coding Scheme Designator (0008,0102) is not sufficient to identify the Code Value (0008,0100) unambiguously.	ALWAYS	AUTO
>Code Meaning	(0008,0104)	1	Required if a sequence item is present.	ALWAYS	AUTO

○TABLE 8.1- 39 IMAGE REFERENCE MACRO ATTRIBUTES
following contents have been added.

Attribute Name	Tag	Type	Dicom Attribute Description	Presence of Value	Source
Referenced SOP Sequence	(0008,1199)	1	References to Composite Object SOP Class/SOP Instance pairs. Only a single Item shall be included in this Sequence.	ALWAYS	AUTO
>Referenced SOP Class UID	(0008,1150)	1	Uniquely identifies the referenced SOP Class.	ANAP	AUTO
>Referenced SOP Instance UID	(0008,1155)	1	Uniquely identifies the referenced SOP Instance.	ANAP	AUTO

○TABLE 8.1- 40 CONTAINER MACRO ATTRIBUTES
following contents were added.

Attribute Name	Tag	Type	Dicom Attribute Description	Presence of Value	Source
Continuity of Content	(0040,A050)	1	This flag specifies for a CONTAINER whether or not its contained Content Items are logically linked in a continuous textual flow, or are separate items. Enumerated Values: SEPARATE CONTINUOUS	ALWAYS VALUE is SEPARATE	AUTO
Content Template Sequence	(0040,A504)	1C	Template that describes the content of this Content Item and its subsidiary Content Items. Only a single Item shall be included in this sequence. Required if a template was used to define the content of this Item, and the template consists of a single CONTAINER with nested content, and it is the outermost invocation of a set of nested templates that start with the same CONTAINER	ALWAYS	AUTO
>Mapping Resource	(0008,0105)	1	Mapping Resource that defines the template. See Section 8.4. Defined Terms: DCMR = DICOM Content Mapping Resource	ALWAYS	AUTO
>Template Identifier	(0040,DB00)	1	Template identifier.	ALWAYS	AUTO

○TABLE 8.1-43 IRRADIATION EVENT X-RAY DATA
following content has been added.

NL	Rel with Parent	Concept Name	VM	Presence of Value	Value
>	CONTAINS	EV (113735, DCM, “Exposure Time”)	1	ANAP	Units = EV (ms, CUM,“ms”)

○TABLE 8.2-1 DATA DICTIONARY OF PRIVATE ATTRIBUTES
following content has been added.

Attribute Name	Tag	VR	VM	Notes
Stereo Angle	(0019,xx20)	FL	1	

○TABLE 8.5-1 IOD OF CREATED PRIVATE CR IMAGE STORAGE SOP INSTANCES
following contents have been changed. (PRINTED IN BLUE)

IE	Module	Reference	Presence
Patient	Patient	Table 8.1-5	ALWAYS
Study	General Study	Table 8.1-6	ALWAYS
	Patient Study	Table 8.1-7	ALWAYS
Series	General Series	Table 8.1-8	ALWAYS

IE	Module	Reference	Presence
	CR Series	Table 8.1-9	ALWAYS
Equipment	General Equipment	Table 8.1-12	ALWAYS
Image	General Image	Table 8.1-13	ALWAYS
	Image Pixel	Table 8.1-14	ALWAYS
	Contrast/bolus	Table 8.1-15	ALWAYS
	CR Image	Table 8.1-17	ALWAYS
	Modality LUT	Table 8.1-25	ALWAYS
	VOI LUT	Table 8.1-26	ALWAYS
	SOP Common	Table 8.1-28	ALWAYS
	DX Positioning	Table 8.1-21	ALWAYS
	X-ray Acquisition Dose	Table 8.1-23	ALWAYS
	X-ray Generation	Table 8.1-2	ALWAYS